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THE ROLE OF THE UTERINE CERVIX IN FOCAL INFECTIONS*

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It is probably universally accepted that infection in the cervix of the uterus produces a variety of local symptoms. First in frequency is leukorrhea, and then follow pelvic pain, disturbance of menstrual function, pains in the limbs, backache, sterility, and general malaise, or a hypometabolic state. That the cervix, when infected, can serve as the focus for such conditions as neuritis, arthritis, inflammation of structures of the eyes, gastric or duodenal ulcers, or gall-bladder disease is subject of debate, with the extremes of opinion so usual to debated medical subjects.

In 1868 Graily Hewitt,[1] of London, wrote that cases coming under his observation showed the neuralgic nature of pain from the cervix because the patient, "had been affected with well-marked neuralgia of the face, of the temples or other parts."

In 1912 Ashton's text,[2] referring to lacerations of the cervix, contains this: "In the course of time the general and nervous systems are affected and the patient loses weight, and finally neurasthenia develops—."

From this it is seen that even some of the older writers were inclined to blame distant disturbances on the cervix.

In 1927 Mayo and Dixon[3] stated that "Rosenow has placed the cervix on a par with the tonsils as a site of infection. However, the tonsils are probably better able to destroy infection than the cervix is.

A large number of cases in women have been noted in which the disease, such as inflammatory conditions of the eye, rheumatism in a small joint, or urticaria, persisted until finally infection in the cervix was discovered and eradicated."

In 1933 Wiltsie[4] in discussing focal infections does not mention the cervix, though he does not list all possible sources of infection as foci.

Young,[5] in 1933, under clinical features, etc. of cervicitis says: "The most constant symptom is leukorrhea, . . . , although it is common to find even in such patients evidence of impaired general health."

The late W. E. Sistrunk reported many cases of inflammation of the eyes, pyelitis and urethritis, neuritis and neuromuscular pains, arthritis, and general ill-health as the result of cervical infections.

In 1934 P. Graffagnino[7] reported experiences similar to those of Sistrunk, including besides, peptic ulcer, cystitis, and endocarditis.

In "Obstetrics and Gynecology," edited by Curtis, Holden, in the chapter on "Lesions of the Cervix" writes in part as follows: "Moench also studied 12 cases of scleritis and episcleritis in women in whom all other possible foci were eradicated without improvement. The cervix was then examined and definite infection found. The cervical infection was cured and a streptococus vaccine was made and injected, with resultant improvement or complete recovery in most cases."

C. Jeff Miller[8] says that the work of Sturmdorf, Rosenow, Langtroth, Moench, and others would seem to lend both experimental

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and clinical proof to the theory that the histology and lymphatic structure of the cervix warrant its consideration as a frequent focus of systemic infection but adds that he is not one of those who accepts this supposition unreservedly but thinks it is folly to deny that in certain cases the sequence of cause and effect is too clear to be overthrown.

These writers form but a small part of the legion who have taken one side or the other of this question since Billings[9] first started the general interest in focal infections in 1913 and 1914. Incidentally, Billings did not mention the cervix uteri in his original consideration of possible foci. The pro and con of the subject may be epitomized by the belief of Sturmdorf, on the one hand, that "the cervical mucosa could be aptly termed the tonsil of the uterus," and, on the other, the statement of Heaney, as quoted by Holden that "The staff at the Presbyterian Hospital of Chicago are pioneers in the field of focal infections. During the past years we have examined a great number of patients with the question in mind as to whether the cervix was the cause of a possible rheumatism, arthritis, or neuritis.

In not a single case have we been able to demonstrate the cervix as a focus of infection except in acute gonorrheal arthritis."

It has not fallen to my lot to relieve neuritis, unless pains in the thighs may be so classified, nor arthritis, except acute gonorrheal, nor to aid my oculist confreres in clearing up eye conditions by eradicating infection from the cervix. Nor have I seen endocarditis or myocarditis which could be ascribed to the cervix as a focus. On the other hand, I have many times relieved such cases as the following two by successfully treating chronic cervicitis.

CASE REPORTS

Case No. 1. Mrs. F. H. R., aged 33 years, 2 para (10 yrs. and 6 yrs.) Menses regular, 5 days duration. Complaint: For about 2 years had had frequent prolonged attacks of urticaria and increasing nervousness, and lance-like pains in lower abdomen. Diet and medication, after much laboratory work, had been of no avail. Examination of pelvic organs: Soft and gaping cervix, greatly swollen, with copious viscid discharge. Body of uterus back and to left—myoma about size of body of uterus forward and to right. Treatment of cervix and administration of soda bromide with unrestricted diet resulted in prompt and complete relief of all symptoms.

Case No. 2. Mrs. L. M., aged 37 years, 4 para (oldest 16 yrs., youngest 7 yrs.). One miscarriage before last child. Regular menses, 3 to 5 days duration. Complaint: Leukorrhea, first white but yellow for last year or more. Indigestion. Pain in upper part of epigastrium, constipation. Examination: Lacerated perineum and severely lacerated soft cervix, with eversion and erosion, much swollen. Abdomen generally tender to palpation. All symptoms relieved by treatment of the cervix and attention to the intestinal stasis.

These cases could be multiplied many times, but they are very typical of those I see who suffer from other than purely local symptoms from cervicitis. I am convinced that the cervix does act as a true focus of infection, though perhaps not very frequently in the production of the common conditions arising from such lesions elsewhere. It seems to me that the positive evidence of those who have successfully handled such cases is much more dependable than the negative evidence of the others. If this is so, and the preponderance of opinion leads to that conclusion, then it gives us another potent reason for urging the eradication of infection from the cervix uteri whenever it is discovered, and the routine examination of the cervix as a possible focus of infection as well as a fertile field for future carcinoma.

The divergence of opinion as to the role of the cervix as a focus of infection is no wider than for the approved method of treating the convicted cervix. You would be bored by even brief reference to the many radically different views. Out of all that have come to my notice and out of my own experience I have formulated a definite system of attack which gives satisfactory results, if followed systematically. Nor do I have any apology to make for the use of the time honored and often ridiculed glycerin tampon.

In the first place, cervices are classified as to consistency, for the hard cervix means fibrous tissue and does not yield very often to the less radical measures, whereas the rapidity with which the soft cervix clears up is often

astonishing. Bacteriological examination should be done in all cases.

In the second place, the patient's general condition must be taken into consideration and her resistance raised as far as possible. Sleep must be secured and additional rest when needed. Vaccination with foreign protein is almost routine and typhoid vaccine appears to give the best results.

Heat is conveyed to the cervix by douches, diathermy, or the Elliott apparatus. My experience with the last two is very limited but very gratifying.

Briefly, then, the cervix is exposed, and silver nitrate 5 per cent or tincture of merthiolate applied. This is followed by a glycerin tampon, which is removed next day by the patient who immediately takes a hot douche. I am aware of the skepticism as to the virtue of douches, but my faith in them as conveyors of heat is not shaken. These treatments, with cervical dilatation with the graduated dilators, are continued as long as improvement is definite. As soon as progress ceases, cauterization with a fine-tip cautery at cherry red heat is done, when the office visits are omitted for two weeks, the patient taking douches at home. Local treatments are then resumed until all effects of the cautery subside—at this time, choice must be made between further cauterization or Elliott apparatus or diathermy. Usually the cervix shows such improvement as to justify second cauterization. Should this, too, fail to completely eradicate the infection there remains electrical conization, Sturmdorf surgical conization, or amputation. It seems to me that electrical conization is bound to completely supplant the Sturmdorf operation as it has all of its advantages and is an office procedure. Amputation, of course, is reserved for those cases which do not yield to the above or in which it is obvious from the outset that nothing else will avail. The consistency of the cervix is often the deciding factor, for the hard cervix with infection seldom yields to the less radical method of attack. It seems to me that the wide-spread use of electric conization even in skilled hands is likely to be overdone or frequently unnecessary, and that we should not use it as a routine treatment, for cervical infection but should reserve it as a splendid method in cases which do not yield to simpler measures.

To summarize briefly: An attempt has been made to confirm the cervix uteri in the role of a focus of systemic infection, and a systematic plan of attacking this infection has been outlined.

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THE ETIOLOGY OF FUNCTIONAL PUBERTY BLEEDING AND ITS TREATMENT BY HORMONAL THERAPY*

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A rather common and difficult gynecologic problem is functional uterine bleeding at or around puberty. The age incidence of this condition is of paramount importance because of the obvious need of preserving the menstrual and reproductive functions. Functional or idiopathic uterine hemorrhage in women of the menopausal age presents a much easier problem; in them control of the hemorrhage is quickly obtained by a curettage and radium, which brings on the menopause, with

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subsequent cessation of all menstrual activities.

Functional uterine bleeding in girls of the puberty age demands conservative treatment. When the hemorrhage is sufficiently severe, curettage is indicated to check its immediate flow; however, this procedure is only temporary and recurrences of the same condition are frequent. In order to circumvent the unpleasant features of curettage in young girls, and to eradicate completely the use of radium at this age, treatment of this condition by organotherapy has been advanced. The application of this endocrine treatment to functional uterine hemorrhage in girls, at or around the age of puberty, forms the contents of this contribution.

The cause of functional uterine hemorrhage has been thoroughly investigated here and abroad. Schroeder[1] and Meyer[2] in Germany, Shaw[3] in England, Graves,[4] Fluhman,[5], Novak, [6, 7], Martzloff,[8] and Burch[9, 10] in this country have definitely established the fact that idiopathic uterine bleeding results from a hyperplastic condition of the uterine mucosa, hyperplasia of the endometrium. That this histopathologic change of the endometrium is dependent upon ovarian dysfunction is no longer an hypothesis. It is a certain proof that endometrial hyperplasia is the result of abnormal and persistent ovarian follicular hormone stimulation, in the absence of any corpora lutea influence, and with a possible anterior hypophyseal action in the background. This ovarian hormone dysfunction in turn results from the presence and persistence of the multiple follicle cysts in the ovaries.

Burch[9] has demonstrated comparable changes in the endometrium of mice by the injection of the estrogenic principle while Hofbauer[11], by implantation of the anterior lobe substances or by injections of the anterior hypophyseal extracts, produced endometrial changes similar to those noted in functional uterine hemorrhage.

The histopathological characteristics of endometrial hyperplasia are extremely distinctive. Grossly the endometrium may be thickened, overgrown or polypoid. The microscopic picture presents hyperplasia of the glandular and stromal elements. Lack of uniformity of the glands, the so-called "Swiss Cheese Pattern," is characteristic. Large, dilated, even almost cystic glands are adjacent to small, narrow, nontortuous ones. The nuclei of the glandular epithelium are heavy and solid. The cellular structures are similar to the epithelial features of the rest or interval phase of the menstrual cycle. The stroma is abundant, dense and compact, with frequent mitoses of these cells. In some sections the glandular elements predominate, while in others the reverse is found, proliferation of the stromal features.

The histological picture of endometrial hyperplasia presents a complete loss of differentiation of the endometrial layers and a similarity of structure to the basal layer of the uterine mucosa. This basal layer takes no part in menstruation and its regeneration is under the stimulus of the ovarian follicular hormone. Therefore, the hypothesis is a logical one that endometrial hyperplasia is an overgrowth of the basal layer of the endometrium at the expense of the superficial layers, whose growth is governed by the hormone of the corpus luteum.

The source and cause of the bleeding in endometrial hyperplasia are still unsettled problems. The degree of the hyperplasia does not always determine the amount or character of the bleeding, since Novak[7] has found similar endometrial changes in women with amenorrhea. Other observers consider small scattered areas of necrobiosis, with localized thromboses, as the source of the hemorrhage. As opposed to this theory, Hartman[12] suggests an active bleeding factor originating in the anterior lobe, while Novak[7] comments upon a possible biological factor which increases the permeability of the uterine vessels and thus permits a massive exodus of blood by diapedesis through a relatively intact surface. He does not believe the massive hemorrhages occasionally seen in this condition can be accounted for by the small necrotic areas in the endometrium. His theory of bleeding is substantiated by Giest[13], who has shown that endometrial debris is not cast off in the hemorrhage of endometrial hyperplasia as is the case during the ordinary menstrual flow.

The actual cause of the bleeding in hyperplasia of the endometrium is more vague than

the theory of its source. Burch[14] has suggested abnormal and irregular declines in the estrogenic substance as the causative factor. It is apparent that there must be a point at which the amount of the estrogenic principle ceases to be sufficient to maintain the hypertrophied endometrial growth. Such an hypothesis is substantiated by the presence of endometrial hyperplasia associated with amenorrhea, and by uterine bleeding following the withdrawal of the estrogenic principle after the endometrium of spayed rodents has been stimulated by it to an hyperplastic condition. Hence the cause of bleeding in this condition is, in all probabilities, similar to that which determines the onset of the menstrual flow, the withdrawal of the estrogenic stimulation[15].

Clinically, endometrial hyperplasia manifests itself as uterine hemorrhage, occurring most frequently at the two extremes of woman's functional life, a period when the one-two action of the ovarian hormones is not rhythmic, a fact which offers an explanation that this type of bleeding is really only an exaggerated estrus, or intermenstrual hemorrhage, since ovulation is known to be inhibited. More than 50 per cent of the cases of functional uterine bleeding occur around the menopausal age, although a few cases have been reported subsequent to it, due to granulosa cell tumors.

As noted previously functional uterine bleeding after 40 years of age presents no difficult therapeutic problem, since the bleeding can easily be controlled by curettage and radium. On the other hand, the same condition around the age of puberty is a delicate problem in therapy. The Tulane Gynecological Clinic has experienced rather gratifying results in the treatment of functional puberty bleeding by hormonal therapy[16, 17]. The rationale of hormonal treatment in this condition is, by luteinizing the persistent follicle cysts of the ovaries, to convert the non-secretory, hyperplastic endometrium over into the secretory, pre-gravid or premenstrual type, which is associated normally with menstruation. Progestion, the corpus luteum factor, is the ovarian hormone controlling this conversion. With its mobilization by the luteinization of the granulosa cells of the persistent follicle cysts, such an endometrial transformation might be brought about.

Progestin is the hormone of choice in the treatment of this condition, since its action is directly on the endometrium and need not be routed through the ovary. But progestin is not available for use commercially, so the luteinizing factor, obtained from the urine of pregnant women, was administered in its place. This hormone, follutein, was generously supplied to us by Dr. J. F. Anderson of E. R. Squibbs & Sons. One cubic centimeter equals 250 R.U.

Recent investigations by Evans[18], Leonard[19] and Collip[20], working on hypophysectomized rats, have shown a dissimilarity of action between the hormone found in pregnancy urine and the sex stimulating hormone contained in anterior pituitary extracts or whole gland transplants. In the hypophysectomized rat, the former, the pregnancy urine hormone, gives rise only to thecal cell luteinization around atretic follicles, while the latter causes follicular activation and maturation and the formation of fresh corpora lutea. Evans[18], however, drew attention to the synergistic action of these two hormones. He showed that the effect on experimental ovaries is much greater than when either is administered alone, and is greater than the additive effect of the two combined. This synergism of the pregnancy urine hormone is demonstrable with either the gonad stimulating principle of the anterior lobe or with the pituitary growth hormone. The factor responsible for this synergistic action has not at present been identified with any of the known pituitary hormones. Evans[18] theorizes on the existence of this factor in the pituitary gland in a prehormonal state. With the action of the pregnancy urine hormone upon it, this prehormonal factor is converted into the anterior lobe sex stimulating principle, which, upon its release, causes the typical Aschheim-Zondek reaction in the ovaries, the production of ripe and ruptured follicles and fresh corpora lutea. If this hypothesis be true, the hormone of pregnancy urine is a pituitary stimulating rather than an ovarian stimulating principle.

In view of the greater ovarian response, as just described, by the administration of the anterior pituitary extract in combination with the hormone of pregnancy urine over the latter alone, this method of therapy was also used in the treatment of functional uterine bleeding. The anterior pituitary principle was given in the form of the anterior lobe growth hormone, also supplied by E. R. Squibbs & Sons.

Granted that no pelvic pathology, as elicited by bimanual examination, could account for the bleeding in these young girls, hormonal therapy was instituted before any curettage was performed. It was desired to take the hormonal estimation in the blood and urine of these patients, but facilities for such a procedure are not yet available. The technique of the treatment consisted in the daily administration to the bleeding patient of 1 c.c. of follutein, alone or in combination with 2 c.c. of the anterior pituitary growth factor. These injections are given intramuscularly and are continued until the bleeding stops. Assuming this cessation of flow to be the end of a menstrual period, no further hormonal therapy is given until the onset of the next period. With the onset of flow, daily injections of the hormone or hormones are again given until the flow of this second period ceases. In like manner treatment is carried through a third period. After treating the patient for three months, no treatment is administered during the fourth period, in the hope that the menstrual rhythm, by this time, has re-established itself. If such is not the case, treatment should be carried on a while longer. In our experience three periods of treatment were usually sufficient to re-establish the normal menstrual rhythm. About equal results were obtained whether follutein was used alone or in combination with the growth principle.

The only untoward symptoms noted were an occasional local reaction at the site of the injections. This unpleasant feature could be somewhat alleviated by lessening the dosage given, starting with smaller doses or by diluting the amount of the injection with an equal volume of sterile normal saline or .5 per cent novocain solution.

That actual conversion of the hyperplastic endometrium over into the secretory, premenstrual phase did not always occur is readily attested in several cases by the rapid cessation of flow, within 12 to 24 hours, after the injections of the hormones. The smallness of the dose injected and the rapidity with which the bleeding stopped would seem to preclude the above described mechanism. The most likely explanation would seem to be that the hormonal effect is exerted upon some unknown bleeding factor, which possibly is similar in nature and function to the principle which controls the cessation of the normal menstrual flow.

CONCLUSION

Hormonal therapy is of definite value in the treatment of functional uterine hemorrhage, due to endometrial hyperplasia, in young girls around the age of puberty. It is the least radical of any of the former methods of treatment, and the results from its administration will be bettered when hormonal preparations are made more pure and potent, and when their actions are better understood. That a tendency to spontaneous readjustment of the functional uterine bleeding in young girls is common is shown in the many milder cases which recover without any treatment. In consequence, some of the acclaimed hormonal cures might have been spontaneous ones.

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THE PREVENTION AND CONTROL OF AMEBIASIS*

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Before it is possible to intelligently consider the subject of the prevention and control of amebiasis it is essential that one have a clear understanding of the meaning of the term "amebiasis;" of the life history of *Endamoeba histolytica;* of the incidence and importance of the infection; and of the methods of transmission of this parasite. The following very brief review may help in making clear the discussion which follows as to the prevention and control of this condition.

By the term "amebiasis" is meant the invasion of the tissues of man by the pathogenic ameba, *Endamoeba histolytica,* the invasion occurring primarily through the mucous membrane of the large intestine or, more rarely through that of the lower portion of the ileum or the appendix. The term includes clinically all phases of the infection, from the symptomless "carrier state," in which the only lesions produced are probably microscopic in size, through the stages of indefinite intestinal symptomatology, acute or chronic amebic diarrhea, to the ultimate clinical picture of the condition known as amebic dysentery. It is most important to remember that amebic dysentery is but a part of the clinical and pathological picture of amebiasis, and that, in this country, amebic dysentery is comparatively rare while the other conditions produced by *Endamoeba histolytica* are very common. It is also essential that we recognize that "amebic dysentery" is not a disease entity but only one of the clinical conditions brought about by the invasion of the tissues of the human intestine by this parasite.

The *incidence* of amebiasis in this country is fairly well established for certain regions by numerous surveys made by competent investigators. Surveys have been made in practically every part of the United States and it has been found that the incidence varies with the social classes examined; the age of the individuals examined; whether those examined are in good health or hospital patients; and the general and local sanitary conditions present in the locality where the examinations were conducted. Enough has been accomplished in this line to indicate that approximately 5 to 10 per cent of the people of the United States are infected with *Endamoeba histolytica,* although in some localities the incidence is less than 2 per cent. If we take the total recorded number of individuals examined by competent observers throughout this country, as shown by published surveys, we find that a total of 51,634 individuals have been examined, and that *Endamoeba histolytica* was found present in 5,233, or 10.1 per cent. This number includes those examined in regions where the incidence is very low as well as where it is high, so that these figures are believed to represent a fair average percentage for the general population of this country. This would mean that there are approximately 12,000,000 people in the United States harboring this parasite, and when it is remembered that this is a pathogenic organism which invades the tissues of its host, producing lesions which may result in amebic dysentery or diarrhea, amebic liver abscess, or other serious complications, one is impressed at once with the great public health significance of the problem of amebiasis. Fortunately, in the writer's experience, not more than 50 per cent of infected individuals present symptoms of the infection, al-

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though it should be distinctly understood that even the carrier without any symptoms for months may suddenly develop an abscess of the liver or severe amebic diarrhea or dysentery. As the writer has often stated, there is no such thing as a healthy carrier of *Endamoeba histolytica* if by that term is meant one in whom no lesions are ever produced by the parasite, for, in his opinion, which is supported by a large number of clinical and pathological investigations by numerous observers, every individual harboring this parasite has lesions due to it in the intestine, even though they be microscopic in size. In many individuals these minute lesions heal almost as rapidly as they are produced and symptoms do not result, but if their resistance is lowered for any reason the lesions do not heal as rapidly and, sooner or later, microscopic ulcerations occur and clinical symptoms begin to appear. Thus, it is essential that every known infection with *Endamoeba histolytica* be properly treated as one never knows when serious symptoms may arise or amebic abscess of the liver develop if conditions in the human host become favorable for the rapid multiplication and invasion of the tissues by this parasite.

The life history of *Endamoeba histolytica* is very simple, consisting of a motile, or trophozoite stage, a pre-cystic stage, and a cystic stage of development. The cysts of the parasite are the infective stage as the motile trophozoites can not pass through a normal stomach due to the acidity of the gastric secretion which destroys them. When the cysts of the ameba are swallowed in contaminated food or drink they pass through the stomach unaltered and through the entire small intestine in most instances, but on reaching the large intestine the cyst wall, which has apparently been softened by the intestinal secretions, becomes permeable, and a four-nucleated ameba emerges from each cyst, which afterwards divides into eight young amebas. This encystment occurs usually in the ileo-cecal region but may occur in the lower portion of the ileum or in the appendix. After the young amebas are developed some of them penetrate the mucous membrane of the intestine by virtue of a cytolytic substance which they excrete, and by their active motility, and multiply as motile or trophozoite forms in the tissues. Others do not penetrate the bowel wall but after living in the lumen of the intestine for a while undergo encystment, the cysts being voided in the feces of the host. If such feces contaminates food or drink, the cysts are swallowed and the cycle of development already described is repeated.

The motile forms of *Endamoeba histolytica* are found in appreciable numbers only in liquid or semi-liquid stools, while the cysts occur only in formed or semi-formed stools, in the vast majority of instances. It is thus evident that the infective stage, or the cyst, is only found when the infected individual is not suffering from diarrhea or dysentery, and that individuals suffering from these conditions, and in whose feces only the motile forms are found, are usually harmless so far as the transmission of the infection is concerned. These facts are of extreme importance in the prophylaxis of the infection, as will be noted later. In the tissues the ameba multiplies by simple fission, each organism dividing into two motile forms, while in the cysts the nucleus divides into four nuclei thus producing the four-nucleated ameba which emerges from the cyst when it reaches a new host, and which eventually divides into eight motile amebas when liberated in the intestine.

The methods of transmission of amebiasis are various but there can be no transmission of this infection unless the cysts are taken into the mouth through the means of contaminated food or drink. The cysts are the infective agents and are passed continually in the feces of the infected individual, many millions being passed per day by most carriers. The food or drink may be contaminated by a polluted water supply; through garden vegetables fertilized by human extreta; through the droppings of flies; and through the handling of food and drink by food-handlers who are infected and excreting the cysts in their feces These are the most frequent and important methods of transmission and will now be considered separately, with the methods of prevention and control that have been found most efficient in practice.

1. *Transmission by Water.* A water supply contaminated by sewage is a very frequent source of infection with *Endamoeba histolytica* in regions where there is no properly impounded and filtered public supply, as in rural regions where wells and springs are depended upon for water and there is improper disposal of fecal material. In such regions amebiasis is most frequently a familial infection but, under certain conditions, as military operations in such regions, large numbers of individuals may become infected and veritable epidemics of amebic dysentery may occur. Such were the conditions in the Philippines during the Insurrection, when our troops were operating in the field, drinking heavily polluted water from local wells and springs, with their resistance greatly reduced through the hardships inevitable in campaigning in the tropics. Local epidemics of amebic dysentery were frequently observed among the soldiers at that time undoubtedly due to the use of water contaminated with feces containing the cysts of *Endamoeba histolytica.* Even in large cities having a filtered and impounded public water supply, amebiasis may be transmitted by water locally contaminated by sewage through cross-connections between sewers and the water supply pipes, as in the recent severe epidemic of amebic dysentery originating in certain hotels in Chicago.

Another method by which a contaminated water supply may transmit the cysts of this parasite is the use of such water in the irrigation of vegetable gardens, a striking instance of which has been recorded by Andrews (1934), in Fresnillo, Mexico. In this instance the water used for irrigation contained most of the sewage of the town and the vegetables were grossly contaminated by sewage with the result that the percentage of infection of the inhabitants of the garden districts was 44.1 per cent as compared with 15.8 per cent, the highest percentage found elsewhere in this city.

The prevention of the transmission of amebiasis by water depends essentially upon the proper disposal of sewage. In rural districts it is just as important to insist upon the installation of properly constructed and maintained sanitary privies in the prevention of amebiasis as in the prevention of hookworm disease; for the indiscriminate disposal of fecal material upon the ground in the vicinity of dwellings will inevitably result in the pollution of the local well or spring and the consequent infection of those who partake of the water, provided a carrier of *Endamoeba histolytica* be present. Thus, in rural districts the installation and use of the sanitary privy is a most important step in the prevention of amebiasis.

Water obtained from a properly constructed and operated public filtration plant is harmless as it has been repeatedly shown that sand filtration removes the cysts of *Endamoeba histolytica* but such water may become a transmitting agent after leaving the plant through contamination locally through back syphonage, cross connections in plumbing, or breaks in sewers, and such contamination should be most carefully guarded against. There should be enforced the most stringent measures against cross connections between water supply systems which are safe for domestic use and those unfit for domestic use. Faulty pluming has already been mentioned as the cause of the severe epidemic of amebic dysentery originating in certain Chicago hotels, and similar conditions as regards plumbing undoubtedly exist in many of our hotels and public and private institutions in other parts of this country. The importance of this method of prevention has been well emphasized by McCoy and Chesley (1934) who say:

"What has been learned from the Chicago epidemic should serve to stimulate greater zeal in the protection of water supplies with special reference to the distribution system as well as the general supply itself. The larger cities in which the myriads of intercommunicating pipes both public and private, supply the multiplicity of demands for water for various purposes other than consumption, as for industrial purposes, cooling, flushing, sprinkling, fountain jets, and the like, would probably present the greatest possible hazards. The small cities and villages are not free from similar dangers. Old installations and any system under stress of over demand, may menace health. To insure safety there should be no physical connection between

water supplies that are safe for domestic use and those that are unsafe for domestic use."

The installation of a filtered public water supply has always resulted in a great decrease in the number of cases of amebiasis and amebic dysentery. Thus, in Panama and the Canal Zone, and in Manila, the installation of such a supply resulted in a great decrease in the number of cases of amebic dysentery; so much so, that while formerly this symptom-complex of amebiasis was one of the most commonly observed disease conditions, today amebic dysentery is rarely encountered. It is thus evident that, where it is possible, the installation of a filtered public water supply is a most efficient method of preventing amebiasis.

The prevention of amebiasis by any known method of chemical treatment of contaminated water is impossible. The use of chlorine, so efficient in the sterilization of water for pathogenic bacteria, is worthless so far as the cysts of *Endamoeba histolytica* are concerned, and this is true of other chemicals that are at present employed in water sterilization. The cysts of this parasite are very resistant to chlorine and are not killed unless practically 100 times as much is employed as in ordinary water sterilization, an amount of chlorine very far in excess of any amount that can be used in water sterilization, and the same is true of other chemicals used for this purpose. The only practical method of rendering water safe if contaminated with cysts of *Endamoeba histolytica* is boiling, for boiling kills the cysts almost instantly. In rural districts or elsewhere, if there is reason to believe that water is contaminated with the cysts of this parasite it should be boiled before it is used for domestic purposes and travellers in regions where amebiasis is known to be endemic should insist upon the boiling of all drinking water and should avoid eating raw fruits or vegetables that may have come in contact with polluted water.

While contaminated water can be rendered safe by filtration through bacterial filters or small sand filters, the use of such filters is generally impracticable and boiling remains our only method of rendering such water safe.

2. *Transmission by Garden Vegetables.* In many regions in the Orient and elsewhere truck gardens are fertilized with human excrement and vegetables thus fertilized, if eaten raw, may transmit amebiasis. It has been shown by numerous investigators that the cysts of *Endamoeba histolytica,* under favorable conditions of temperature and moisture, may remain viable in the feces for from 9 days to as long as three weeks after they are passed, so that it is readily understandable why garden truck may be a very important source of amebiasis if fertilized with such material. Fortunately, in this country, this method of transmission is of little importance for the reason that the law prohibits the use of human feces as a fertilizing agent, but the practice does obtain in some regions where truck gardens are operated by Japanese or Chinese, and the chance of such a method of transmission should be remembered where such a condition is present.

In regions where human excreta are used for fertilizing purposes the avoidance of eating uncooked fruits and vegetables from truck gardens is most important in the prevention of amebiasis. The writer has personally observed several cases of amebic dysentery produced by eating salads made from uncooked vegetables obtained from such gardens, and in the tropics and sub-tropics, especially in the Orient, this is an ever present method of transmission. In such regions, and, indeed, in all localities, the sale of vegetables or fruits thus fertilized should be forbidden by law. If the fecal material is stored for a period of a month before use it is probable that the cysts of *Endamoeba histolytica* would all be destroyed, but no dependence can usually be placed upon such storage being enforced in most localities, so that it is the part of wisdom to abstain from eating uncooked garden produce in localities where this practice obtains.

It is possible to render fruits and vegetables safe that have been thus fertilized by thoroughly washing them in running water and then immersing them in boiling water for 30 seconds, the temperature being kept at the boiling point during this time. In thus treating leafy vegetables, as lettuce, cabbage, spinach, kale, etc., it is necessary to separate each leaf, washing each

in running water, and then immersing for the time stated in boiling water. After this treatment the fruits or vegetables may be freshened by immersing them in ice-cold boiled water or placing them in the ice-box. However, it is best to abstain from the use of raw garden truck in any region where this method of fertilization is practiced.

3. *Transmission by Flies.* It has been shown by Thomson and Thomson (1916), Wenyon and O'Connor (1917), Roubaud (1918) and Root (1921) that the cysts of *Endamoeba histolytica* when ingested by flies feeding upon feces containing them, may live in the intestine of the insect for at least 24 hours and sometimes for as long as 49 hours during which time they are voided in the droppings of the flies in a viable condition. Frye and Meleney (1931) actually demonstrated the cysts of this parasite in the intestine of flies collected in 4 of 12 houses where carriers of *Endamoeba histolytica* lived. It is thus evident that flies may transmit amebiasis by contaminating food or drink with their droppings and where these insects are numerous; carriers are present; fecal material is exposed to flies; and food is not protected from these insects, they may be the source of many amebic infections. In 1916, the writer observed an epidemic of amebic dysentery among troops camped at El Paso which was, in his opinion, due to fly transmission. In the period between July and November, 1916, 118 cases of amebic dysentery occurred, all originating in the military camps at El Paso. As the troops used the same water supply as the citizens of El Paso, where there was no increase in amebic dysentery, and all other conditions were similar, with the exception that immense numbers of flies were present throughout the camps, it was believed that to these insects was due the outbreak of amebic dysentery. With the disappearance of the flies, upon the advent of cold weather, cases of amebic dysentery ceased to occur and the incidence of amebiasis returned to normal for that vicinity.

It should be remembered that the danger of contamination of food by flies lies not only in the cysts of *Endamoeba histolytica* reaching the food by being voided in the droppings of these insects, but also through contamination by the feet of flies that have walked over fecal material containing the cysts. Kofoid, Kornhauser and Plate (1919) have shown that from 100 to 150 of the larger cysts, and from 500 to 2000 of the smaller cysts of this parasite could be crowded in a single layer equal to the area of the foot of a fly, thus indicating the possible danger of this method of transmission. It is undoubtedly true that whenever flies are numerous, fecal material containing the cysts of *Endamoeba histolytica* accessible, and food supplies are unprotected from flies, this method of transmission of amebiasis is most important.

The prevention of amebiasis transmitted in this manner depends upon the protection of food and drink from flies. The screening of rooms and mess halls from flies, and the screening of all food supplies exposed outside screened rooms should be rigidly enforced, and proper measures should be taken to prevent the breeding of this insect.

In military and civilian camps, in rural regions where soil pollution with feces is common, and under all circumstances where flies may reach human excreta, the protection of all food supplies by screening should be rigidly enforced.

4. *Transmission by Food-Handlers.* The writer has stated elsewhere (1934) that "The contamination of food and drink by food-handlers who are passing the cysts of *Endamoeba histolytica,* the so-called "carriers", is undoubtedly the most common and most important method of transmission in many localities, and certainly so in towns and cities having an impounded water supply and where sanitation is otherwise excellent", and while recently there has been an effort to minimize the danger of this method of transmission, the infected food handler must still be regarded as the principal source of infection in most localities. Apparently healthy carriers of this parasite pass enormous numbers of cysts daily, as shown by Kofoid, Kornhauser and Plate (1919), who found that the number varied greatly but in one individual with only a moderate infection, who was followed for 42 days, counts being made on alternate days by diluting the entire stool and

using the counting chamber of a hemocytometer, they determined that the total number varied from 330,000 to 45,000,000 per day, the average for the 26 days being 14,520,000 per day. It is not difficult to understand, in view of these data, how a food handler who is carrying this parasite, and who is careless as to the cleanliness of his hands, may be a very potent transmitter of amebiasis. Food-handlers in our hotels, restaurants, roadside eating places and other public eating places are especially dangerous if they are carriers of *Endamoeba histolytica* but the same is also true of cooks and others who handle food in the home if they are carriers. The incidence of amebic infection among food-handlers varies greatly, from 3 to as much at 23 per cent, according to recent surveys. Thus Johnstone and Iverson (1935) found practically 3 per cent of 747 food-handlers in San Francisco infected while Tonney, Hoeft and Spector, reported by Bundesen, Rawlings and Fishbein, (1933) found 23.6 per cent of 364 food handlers in a certain hotel in Chicago infected.

While the recent studies of Spector and Buky (1934) apparently demonstrated that within ten minutes the cysts of *Endamoeba histolytica* have perished after drying on hands experimentally soiled with feces containing them, this period would be amply sufficient to infect food if the individual handled it directly after leaving the toilet, and Andrews (1934) has demonstrated that the cysts may remain under the finger nails in a viable condition for periods varying from 5 to 45 minutes. It is thus evident that individuals whose hands are soiled with material containing the cysts of this parasite and who prepare sandwiches, salads, and other foods requiring handling, have ample opportunity for contaminating such foods. The experiments of Spector, Foster and Glover (1935) are still more conclusive of the danger of transmission of amebiasis by carriers, for they found that the hands of 74 carriers of this parasite, examined immediately after passing the feces in the usual manner, were contaminated with the cysts in 5 or 6.8 per cent. While these investigators argue from these results that the contamination of food by carriers must occur infrequently, when it is remembered that only one examination was made of each carrier, this percentage who did soil their hands is very significant. If repeated examinations had been made, day after day, it is certainly true that a much higher percentage would have been discovered, and that the conclusion mentioned above is based upon insufficient data. In fact, it is evident that the opposite conclusion could be more justly drawn from their experiments.

The prevention of infection by food-handlers consists in the detection and proper treatment of carriers of *Endamoeba histolytica* who are thus employed. Ideally, no one who is a carrier of this parasite should be allowed to handle food but when one remembers the enormous number of carriers it is evident that their examination and removal from employment is impossible. The economic questions involved force us to the conclusion that only in certain localities is a general survey of food handlers possible and that in most places one must be content with a partial application of the ideal. How much can be accomplished with the means at hand must always remain a local question but the writer believes that it is perfectly feasible to examine food-handlers employed in hotels, restaurants and other public eating places in certain localities and to properly treat those that are found infected. Removal from their occupation is not necessary if those infected are instructed as to how they can prevent contaminating the food that they handle, for treatment can be administered without interfering with their duties. Certainly no one who is known to be infected with *Endamoeba histolytica* should be allowed to handle food in a public eating place unless treatment is administered as soon as the infection is discovered, and if possible, he should be prohibited from handling food until the infection is eradicated, but if this is impossible, the writer believes that an infected food-handler may pursue his occupation with little danger of transmitting the infection provided he is under proper supervision and has been instructed regarding his being a danger to others and told of the simple measures of personal hygiene that will prevent the transmission of the infection to others.

The detection of carriers of *Endamoeba histolytica* among food-handlers, as among other individuals harboring this parasite, depends upon its demonstration in the stools of the individual examined. Therefore, it is essential that laboratory personnel be thoroughly trained in the recognition of this ameba, in view of the fact that four other species of ameba live in the intestine of man, all of them harmless commensals. Unfortunately it is true that comparatively few laboratory workers are capable of differentiating *Endamoeba histolytica* from some of these other amebas and it follows that the first and most essential step in the prevention of amebiasis through food-handlers is the training of personnel in the differentiating of these amebas. This training can only be obtained under qualified instructors but any intelligent laboratory technician, if thus instructed, will qualify for the work within a reasonable period of time. As I have stated elsewhere (1934) "A laboratory personnel thoroughly trained in the differentiation of *Endamoeba histolytica* from other amebae and from intestinal flagellates is the first requisite in the diagnosis and prophylaxis of amebiasis."

It has already been stated that it is feasible, in many places, to examine all public food-handlers. If infected food handlers are discovered they should be removed, if possible, from their occupation and treated with one of the excellent drugs that are now available, i. e. chiniofon, carbarsone or vioform. They should not be allowed to resume their occupation until at least three examinations of their feces, made at daily intervals, commencing seven days after completion of treatment, are negative for the ameba. Thereafter, examinations should be made at monthly intervals for at least three months. They should be instructed to wash their hands thoroughly after using the toilet and to avoid depositing their feces where flies may have access to them or where there is any chance of their contaminating food or water. If it is not possible to remove the infected food-handler from his occupation, instruction should be given as to the importance of washing the hands, the disposal of his feces, etc., and careful supervision to enforce these instructions should be insisted upon. At the same time treatment should be administered in order to eradicate the infection.

The occurrence of cases of amebic dysentery in individuals who have eaten at any public eating place should be a signal for the survey of all the food-handlers of such eating place for infections with *Endamoeba histolytica* and also for a survey of the plumbing for a possible chance of water pollution from cross-connections. It is not believed feasible to examine all food-handlers but this measure should certainly be enforced wherever there is a suspicion that any outbreak of amebic dysentery has been caused by the food-handlers in a specific eating place. Such surveys are practicable and a charge of negligence can be justly brought against any Health Department which neglects making such a survey under the conditions mentioned.

Persoal Hygiene and the Education of the Public in the Prevention of Amebiasis. As the carrier of *Endamoeba histolytica* is the source of amebiasis in all localities, the part played by personal hygiene in the control of this infection is of fundamental importance. The prevention of amebiasis, both in the home and elsewhere, depends very largely upon the careful observance of certain rules of personal hygiene, especially as the vast majority of infections with *Endamoeba histolytica* will probably always remain unrecognized, owing to the fact that so large a number do not present symptoms of sufficient importance to attract attention or cause the infected individual to consult a physician. Under these conditions we must rely very greatly in the prevention of the infection upon the well known rules regarding personal hygiene, especially those relating to the washing of the hands before handling food or eating, and it is believed that if the simple rule of thoroughly cleansing the hands before meals and after the use of the toilet was universally observed, the incidence of amebiasis would cease to be of public health importance in well sanitated districts.

The education of the public regarding the importance and methods of transmission of amebiasis is most important in the prevention

of this infection. The writer is not one of those who believe that public education in disease prevention is of little value, but is convinced that it is one of the greatest aids in campaigns against any disease. This is a measure that can be pursued by any Health Department and will amply repay any efforts expended in making it effective. The public should be informed that amebiasis and amebic dysentery are not tropical conditions, as is generally believed, but occur in all parts of the world and are prevalent throughout the United States, especially in the warmer portions of our country. The methods of transmission and the part played by carriers in the transmission of the infection should be stressed and the importance of recognition and treatment thoroughly explained. The public should be informed of the simple rules of personal hygiene that are efficient in preventing the transmission of *Endamoeba histolytica,* and the measures that should be taken for the proper disposal of feces where there is no general method of disposal through properly constructed sewers. The education of the public regarding amebiasis is a practical and very valuable prophylactic measure and should never be neglected.

In conclusion, the medical profession can very greatly assist in the prophylaxis of amebiasis by the proper treatment of all known infections with which they come into contact. Every person known to harbor *Endamoeba histolytica* should be thoroughly treated with one of the recognized remedies now available, and the treatment continued until the infection is eradicated, if possible. Fortunately, with the drugs now available, i. e. chiniofon, carbarsone or vioform, the vast majority of infections can be eradicated, thus preventing the spread of the infection to others and the possibility of the development of serious lesions and symptoms in the infected individual.

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DISCUSSION

Dr. Leon S. Lippincott, (Vicksburg). I consider it a distinct honor to be asked to discuss a paper by Colonel Craig. On the other hand, Dr. Shipp has made it very difficult for me to follow such an authority and to say anything on this subject. It is always a little dangerous to say "greatest," but I am willing to say that Colonel Craig is the greatest authority on this subject anywhere.

I do think that the Chicago experience has helped much in our understanding of the importance of amebiasis. It used to be said, you know, that amebic dysentery was a disease of the tropics or warm countries. Colonel Craig and others have repeatedly warned the doctors of this country that it could and did occur in temperate climates and even in cold countries. We found this out in Chicago.

This Chicago experience had another effect. It brought out the varied conditions that may occur in this disease, that is, there may be no signs or symptoms, or there may be only vague signs or symptoms, or there may be serious signs and symptoms and the patients may go on and die.

In this Association we had a horrible example of what may happen. We have a member here in this Association, a young man who has lived in the South all of his life, and had not contracted amebic dysentery. He saw fit and was fortunate enough to be married the year of the Chicago Fair, and he took his wife to Chicago for the honeymoon, and there he did contract amebic dysentery. He had rather a serious time. It is not always a disease of the tropics.

There is another point that I think has been emphasized by this experience. That is the real danger at times of mistaking amebic infection for a surgical condition such as appendicitis. This same doctor at one time while in Chicago had symptoms suggestive of appendicitis. Fortunately he was not operated upon.

I think we should remember in considering the various symptoms of amebiasis that there is nothing to prevent a person from having in addition to amebic infection some other diseases. The fact

that a patient has amebic infection should not keep us from treating any other condition present.

I, personally, do not understand very well why there should be such a difference in the symptoms and the findings in amebiasis. Apparently it is not a matter of virulence, because cysts taken from patients apparently without symptoms and fed to animals will produce at times the most virulent dysentery. As Colonel Craig has said, a person may be a carrier and go on for years without symptoms and then suddenly become seriously ill. It may be a matter of resistance.

I have spoken before a number of times—some of you may be tired of it—of the importance in public health and in medicine of differentiating between dysentery and diarrhea due to something other than amebae or dysentery bacilli. I think the health officers would make a distinct contribution to our study and handling of dysentery if they would insist—I know it is not always possible, but as far as possible—when a case is reported as dysentery, on trying to have that case proved, proved that it is or is not amebic or bacillary dysentery.

I would like to ask Colonel Craig in regard to the complement fixation test, whether he considers that it may add to our means of diagnosis or become practical for general use in handling amebiasis somewhat as we use the Wassermann test rather profusely in handling syphilis.

I want to personally thank Colonel Craig for bringing this paper to this Association.

Dr. Seale Harris, (Birmingham, Ala.): Though it is irrelevant to the discussion of Dr. Craig's paper, I would like to tell the doctors of Mississippi that two or three times, in the privacy of his office at Vanderbilt University School of Medicine, Dr. Leathers has told me that he regards Dr. Underwood of Mississippi as the very best health officer in the United States. I am sure that you gentlemen agree with Dr. Leathers on that; but I know that it is pleasant for you to have such an estimate placed on your health officer by a man who is regarded as perhaps the greatest man in preventive medicine in this country, and probably in the world.

I would like to join with Dr. Lippincott in saying that Colonel Craig is our greatest authority on amebiasis. I have known Colonel Craig for many years, and I know that he has studied the various manifestations of amebiasis scientifically and from the practical viewpoint of a clinician. I have recently read with interest and profit his new book on amebiasis, and I would advise anyone who is interested in the subject to read this book. Unquestionably amebiasis is a much more frequent condition than many of us have realized, though I am convinced that the very excellent work of the health departments of Mississippi, Alabama and other Southern States has reduced the prevalence of this tropical disease. I lived in Mobile from 1906 to 1915 and while there began making routine examinations of the stools of every patient that came to me. In that period amebiasis was a frequent condition. We sometimes found the Endameba histolytica in patients who never had dysentery. I have continued to make routine stool examinations on every patient that has come to me, but I now rarely find the ameba. In fact, I have never found a case of amebiasis that originated in Birmingham. We have had a few cases in Birmingham that were contracted in other cities; one, a very prominent citizen who attended the Chicago Exposition, developed a serious case of amebiasis. I am sorry, of course, that Chicago had an epidemic of amebiasis; but I am glad that the people of the country realize that this condition is more or less endemic all over the United States.

Reading Dr. Craig's book recently was of great value to me in dealing with a case of amebic dysentery that originated at Wheeler Dam in North Alabama. The patient had been examined by competent men in several cities and the Endameba histolytica could not be found in his stools. We found one protozoan that resembled the endameba, but we were not sure that it was the histolytica organism. This patient was quite anemic, very weak and had considerable temperature at times. We transfused him three times. A diagnosis of ulcerative colitis had been made. Proctoscopic examination did not show the lesions of ulcerative colitis; but there were ulcers, apparently of the amebic type, in the sigmoid. Following a suggestion in Dr. Craig's book, we used carbarsone and the patient was relieved and apparently cured. I believe that carbarsone is the best and least dangerous of the arsenical preparations used in the treatment of amebiasis.

In visiting the Canal Zone some years ago, Dr. James and others informed me that they have had cases of amebic dysentery in which they examined the stools of patients daily for thirty days and did not find the ameba, but found it on the thirty-first day, but knowing all the time that the patients had amebiasis. While it is best to find the ameba before making a positive diagnosis, at the same time, it is not always advisable to wait until the parasite is found in the stools before giving specific drugs like carbarsone.

Dr. D. L. Hollis, (Biloxi): I just want publicly to thank Colonel Craig for his paper. I feel that it has been of more interest to me than perhaps most of you. After having served a number of years in the Canal Zone and other tropical countries, I can full well realize the value of this paper and the authority that Colonel Craig is.

I shall not, as Dr. Lippincott told you, attempt to add anything to what the Colonel has told you,

but I would like to give you some of the things I saw while in the tropics. Amebic infection is a funny thing to me. Sometimes these cases will run right along and be smooth and easy and apparently of no trouble to the patient and all of a sudden they will blow up sky high with a liver abscess and you have a very sick fellow on your hands.

Another thing is why the mask of abdominal symptoms that you get out of this immediate infection. I saw a number of post-mortems in the Canal Zone done by Clark. You will take a case in which the host has had no previous symptoms and develops a liver abscess and dies as the result. You will see numerous lesions throughout a large part of the intestinal tract. They vary in size and cover a tremendous amount of distance. These lesions are both micro-and macroscopieal and I have often thought about that and as Dr. Lippincott said he wondered about the resistance in this amebic infection, I have often wondered if it did not vary to the amount of intestinal damage you have. These lesions are confined to the large bowel. Amebic infection is not confined as most people believe, to the tropics. It is subtropical as well as elsewhere. Another thing that I noticed was that the most of these cases came from the low lands. In some parts of the tropics human fertilizer is used in truck farming and it is by this means that amebic dysentery is spread as the soil in the tropics where your temperature is more or less even makes a good culture medium for the ameba, while in the mountainous regions you do not see so much amebic dysentery.

There are two things I would like to say something about and that is liver abscess and abdominal symptoms. I saw a number of liver abscesses in the tropics. They are very interesting. They sometimes come in with no previous symptoms and develop abscess. Liver abscess appears in about twenty per cent of the cases. They are as a rule single and rather large, however, they are occasionally multiple. These abscesses were drained by a high right rectus incision and while in Mexico we drained through the rectus and chest wall. A lot of times you can aspirate and drain them out. I think one of the reasons why in the Chicago epidemic you had a number of bellies opened up for appendicitis was that you had some large lesions in the upper part of the large bowel which produced pain and a leukocytosis. One of the features of the pain of amebic dysentery is that the pain is referred to the umbilicus, hence the diagnosis of appendicitis.

I would like to say a few words about the treatment. When I was in the Canal Zone, treatment worked out by Connor and Bates which proved very effective was one-half grain of emetine in the morning and afternoon for four days then one grain daily until you run it up to twelve grains. Connor thought he got better results from one-half grain twice a day than from one grain once a day. In Mexico, yatren was used rather extensively with good results. More recently, however, we have carbarsone which has proven very effective and I believe should be used in preference to other drugs in the treatment of amebiasis. Another good thing where you have a lot of lesions low down, is an irrigation of a one to one-thousand quinine solution to be retained as long as the patient can retain it. Emetine should not be given to amebic carriers. For liver abscess it is a matter of choice whether or not you go in through the belly wall or chest wall.

Colonel Craig, (Closing): I want to thank the gentlemen for the discussion. It is very gratifying indeed to have compliments paid to one, especially when they are made by people whom you respect and for whom you have a decided affection. I know that all of these gentlemen, from their reputations, are excellent diagnosticians, but I believe they made one mistake from the remarks they made about myself. I think it is one mistake in diagnosis that can be chalked up against them.

Dr. Lippincott spoke about the necessity of remembering that other conditions may be present in your patient that present certain symptoms even though amebiasis may be present and that it is not necessarily true that amebiasis is the cause of the symptoms. I think that is a timely remark. We must not think that because we find the ameba that necessarily the symptoms are due to that—it may be that the patient has some other condition that is causing them. The only proof we can have is a thorough physical examination, and if nothing else is found and the symptoms disappear after amebacidal treatment I think it is fair to assume that the symptoms were due to the ameba.

Now as regards the question of resistance, I can not go into that. I could talk all the afternoon on it, because I am greatly interested in it. Drs. Meleney and Fry believe there are different strains of this ameba, some of which are virulent and some much less so, and they have apparently proven in experiments upon kittens that there are strains that are more virulent than others. For instance, they found a strain in the low-lands of their state which produced more pathology in people than strains in the hill part; however, all of these strains were pathogenic—they all produced some lesions. I am perfectly prepared to admit that there may be differences in virulence, but there is one thing I am not prepared to admit—that the amebae live as commensals in the lumen of the bowel without invading the tissues. This ameba is a tissue parasite. They may not all be able to get into the tissues, but some of them do.

I believe there is no such thing as a carrier of this ameba who has no invasion of the tissues of the body. That brings up the question of why some people present severe symptoms and others none—it may be the dose of the infectious agent. In the Chicago epidemic the cases presented symptoms within a month and some within a few days. This can only be explained by massive doses of cysts which they swallowed in the badly polluted water supply.

The same thing occurs in typhoid infection, and I was very much interested in the paper on typhoid vaccination because I was in the army for years. We had some typhoid in the army in Europe among those vaccinated, but we had it because we had massive infection such as could never occur under ordinary conditions in American cities, so this explains why some people may show symptoms while others do not. It may be the dose of the infectious agent. In my experience if we make a survey for amebiasis and find 100 cases of infection we usually find at the most about 50 who will give no history of any symptoms that could be due to the parasite. That does not mean they do not have lesions—they do have lesions. Dr. Bartlett, in Egypt, in making autopsies of soldiers wounded in battle and who never had symptoms of dysentery, found definite amebic dysentery ulcerations in many of these men. In other words, we can have macroscopic lesions without necessarily having symptoms, and when symptoms do occur in amebiasis he believes it is true that there is a considerable amount of ulceration already present. In some individuals these lesions heal very quickly, and the amebae may be found deep down in the submucous coat, with no evidence of any inflammatory condition around them. Those amebae are in a little nest there, but they may get into the capillaries and be carried to the liver. Usually amebic abscess does not develop because the liver is able to overcome the infection, but amebic abscess of this organ may be the first symptom of amebiasis. I think that individual resistance is the chief factor as regards symptomatology and some people are very resistant.

As regards the complement fixation test, it was first used in Europe but owing to imperfect technique was abandoned. I think I was the first to revive it and work out a technique that is practical. As to whether it will ever be used as widely as the Wassermann test can not be answered positively. I would say it will be many years before it can be so used. The ameba must be cultivated or infected dogs must be kept in order to secure material for the antigen extract. As you probably know, the test is already in routine use in several institutions and is of value where the ameba can not be demonstrated.

As regards treatment, of course I can not go into that. I mentioned the drugs used most extensively, carbarsone and chiniofon. These drugs are effective. Emetine is more effective than any other drug in the treatment of symptoms of amebic dysenfery, but is seldom curative. The dosage should never exceed 1 grain a day over a period of 12 days and then other specific drugs should be used to cure the infection. Emetine is a toxic drug and many people have been poisoned with it, myocarditis resulting. It should nevej be used in the treatment of carriers.

THE PHOBIA OF HIGH BLOOD PRESSURE*

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High blood pressure is undoubtedly one of the commonest conditions met with at the present time. The general impression seems to be that it is on the increase. It is possible, however, that keener observation and the more general use of the sphygmomanometer has merely made it more readily recognized. Certainly the knowledge of the laity regarding it is increasing by leaps and bounds. It has become a frequent topic of discussion in small social gatherings, subjects discussing their blood pressure with one another and comparing their symptoms and respective readings. The increasing number of sudden deaths from angina pectoris never fails to bring up the frequent association of high blood pressure with this dreaded disease. The relationship that hypertension bears to apoplectic attacks is well known to everyone nowadays and finally its frequent association with Bright's disease is common knowledge.

All of these facts have tended in recent years to create a state of apprehension in the minds of people regarding hypertension which does not always seem justified. With this hearsay type of information and increasing fear of blood pressure by the public it becomes of greater importance for us to develop an ability to carefully evaluate its symptoms, recognize its progress and sense

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its dangers when such exist. I fear that we do not always do this and by failure to educate our hypertensive patients properly toward their ailment we sometimes permit them to assume a wrong viewpoint in the matter. A fear complex which many of these patients develop can so complicate the picture of a simple hypertensive case as to become a serious problem to contend with, often producing symptoms entirely separate and distinct from any which may be due to the mere blood pressure elevation itself. The title of this article, the Phobia of High Blood Pressure, expresses well the meaning I intend to create. It is borrowed from a short paragraph of less than twenty lines in Fishberg's book on "Hypertension and Nephritis". After deploring somewhat the knowledge that the general public has about hypertension Fishberg says: "It is very common nowadays for one who has always felt well to learn as a result of an insurance or periodic examination or a visit to the doctor for some trivial complaint that he or she has high blood pressure. Then, often enough, the peace of mind of the patient is gone, symptoms make their appearance, and there start the troubles of the patient, and, even more, of the family." This has been so true in my experience that I felt it deserved stronger emphasis especially since, as physicians, our attitude may contribute to these troubles and to this disturbed peace of mind.

The great difficulty in many high blood pressure cases is to properly evaluate the symptoms which the patient presents and determine their connection, if any, with the blood pressure. This is often a most difficult thing to do because so many hypertensive patients develop this attitude of fear regarding their blood pressure. This anxiety state borders on and frequently becomes an actual neurosis. Furthermore, let us not fail to remember that no disease or condition has ever existed that a well founded fear neurosis will not simulate. Once a hypertension case develops this phobia regarding his high blood pressure there is no symptom he may not show. Transient attacks of palpitation and tachycardia are common symptoms in hypertension. How much more common are both of them however in connection with anxiety states. Substernal discomfort or oppression bordering on actual pain in the precardia are complains one cannot fail to take serious note of in a hypertensive patient, but do not the same symptoms frequently harass the psychoneurotic? I have a hypertensive patient at present who helped by business diversion can work and walk the streets throughout the day without discomfort but when alone his nights are disturbed with what he calls difficult breathing which on careful study analyzes itself into a feeling of weight under the sternum which periodically every few minutes makes him take a full deep inspiration. He calls it shortness of breath but he has a competent heart. It is merely an anxiety state and has no pathologic connection with his heart or blood pressure.

Another patient, who died a few months ago, I first saw 17 years ago, when aged 47 years, because of a severe nose bleed, at which time her blood pressure was 200/120. No doubt she had an abnormal pressure for a number of years before, although no symptoms existed. From the very first this patient developed an attitude of inquiry regarding blood pressure not only from me but among her friends and relatives; their experiences, their symptoms, their anginal attacks and all the other multiplicity of possibilities. For 15 years I had on my hands a most intelligent and trustful but a most apprehensive patient who had at various times attacks of vertigo, severe headaches, nervousness, mild thoracic oppression radiating down the left arm, attacks of so-called dyspnea and a variety of other minor symptoms, yet during these 15 years she was in most excellent health with blood pressure ranging between 165 to 220 systolic and 100 to 120 diastolic. An encouraging viewpoint was always taken because of the good cardio-

vascular-renal background and because it was recognized that her symptoms after most careful evaluation always presented a tinge of unreality. Long periods of freedom from symptoms followed reassurance and encouragement and judicious education regarding her symptoms. Even her attacks of self-suspicioned angina were readily relieved by these methods and never was the hypodermic needle necessary. In fact no real anginal attacks ever occured but she tried hard to have them. A happy, active, useful existence resulted until renal involvement first became manifest and was the final cause of death very recently after 20 to 25 years of hypertension but with little real pathology until 2 years ago.

These cases are not unusual. I could cite many similar ones, but I mention these merely to bring out two points, first, the fact that phobia of blood pressure can produce symptoms in itself, and second, the fact that many years of activity can be carried on in spite of uncomplicated hypertension. Uncomplicated hypertension is therefore not of itself a serious menace to life.

What are the conditions which make hypertension serious? There are three: first the status of the heart, second the blood vessels, third the kidneys. It is estimated that of those persons who eventually die from the effects of high blood pressure, 60 per cent die of cardiac conditions, 20 per cent of vascular accidents, and 10 per cent of kidney disease. No hypertensive case should fail to be given a most careful study of the heart, blood vessels and kidneys. This is the paramount duty of the attendant because on these factors the treatment to a great extent depends and the prognosis entirely hinges.

Many cases of hypertension require no treatment at all other than some good sound advice regarding living conditions. These are the cases which show no evidence of the ill effects of the hypertension on the heart, blood vessels or kidneys. If they carry out good sensible advice they need no medication and often are far better off without blood pressure observations. Too frequent contact with the physician gets them blood pressure conscious and helps to encourage the phobia of blood pressure which one should strive to avoid. I do not mean to imply that these persons should not submit to an annual or even semi-annual health examination. In fact, they should do so and they are among those in whom it is most advisable.

If, as has been said, cardiac failure is the most frequent cause of death in hypertension, what are the prominent cardiac manifestations and dangers? Evidence of cardiac hypertrophy, accentuation of the aortic second sound and sometimes forcible vigorous heart sounds are common manifestations. Sometimes the consciousness of vigorous, pounding heart sounds is what first brings the hypertensive patient to the physician. None of these are danger signals as a rule for cardiac failure is rarely, if ever, an early direct result of hypertension. A warning should be issued as regards telling the patient he has an enlarged heart. An enlarged heart is a terrible indictment to many people and they are not to be expected to know that the enlarged heart of hypertrophy is a natural conservative compensatory response to peripheral resistence and entirely different from the dilated enlargement of beginning congestive heart failure. Many years of freedom from serious cardiac symptoms can pass in spite of marked hypertension as long as the left ventricle continues efficient and able to combat the increased load. When, however, coronary sclerosis causing chronic myocardial changes or similar degenerative changes occurs from infections or other reasons then hypertension becomes a serious menace to life. Symptomatically this type of myocardial failure does not differ from that due to valvular lesions or other causes, nor is there any contraindication to digitalis in its treatment. The coronary features of hypertension may be mild, moderate or severe. Mild repeated attacks may occur at intervals for many years. Severe attacks are always

serious. The attacks with thrombosis are of course still more serious because of the immediate danger and the residual damage done to the heart muscle. Efforts should be made to differentiate between mild attacks of angina due probably to coronary spasm and those due to thrombosis.

Valvular murmurs alone are not of great significance. A systolic murmur at the base rarely means anything more than sclerotic changes in the aortic valves or aortic ring with or without some dilatation. It is commonly present for years. The systolic murmur at the apex transmitted to the axilla usually means a relative mitral regurgitation due to some dilatation and enlargement of the mitral ring. This is not of serious significance either unless signs of congestive failure are present. It may have a safety valve effect in relieving undue pressure in the left ventricle. After all is said such symptoms as dyspnea and cough and early edema are the chief danger signals.

The condition of the blood vessels is undoubtedly of great significance in the evaluation of hypertension. Palpable radials, tortuous temporals and sclerotic changes in the retinal vessels should always be sought for. Absence of any well defined evidence of sclerosis is always encouraging. With a competent heart and good or even fair peripheral blood vessels I always feel satisfied even though the pressure may be high. It is notable how many years a hypertensive can carry on provided vascular degeneration is not advanced. Later when sclerosis occurs no one can estimate the possibilities. Symptoms due to vascular claudication may occur from time to time but do not seem to be a forewarning of anything more serious. When an apoplectic attack may occur it is impossible to even surmise. The height of the blood pressure is of course important but the state of the vessels seems more so. A high diastolic is of greater significance than a high systolic reading.

The condition of the kidneys should never fail to be a point of special study. The mere presence of albumin and even a few hyaline casts need not cause alarm. While such findings should indicate renal changes much more important is the ability of the kidney to eliminate. The necessity of determining this is very great. The phthalein output should always be determined, likewise the ability of the kidney to concentrate urine. Both are simple tests which any general practitioner should be able to do. Blood chemistry observations are always helpful but are not necessary or essential when the two former tests are good. While the renal part of the picture in hypertension is important death directly due to it occurs in only a small percentage of cases.

CONCLUSIONS

1. High blood pressure alone, i.e unaccompanied by manifest disease of heart, arteries or kidneys is not a menace to life nor a hindrance to many years of an active existence.

2. Many cases of hypertension when first discovered have competent hearts, good blood vessels and satisfactory kidney function.

3. The determination of these factors regarding the heart, vascular system and kidneys is the most important duty of the attending physician.

4. The treatment largely depends upon these factors.

5. The prognosis almost entirely depends upon them.

6. Many physicians do not give these important factors the consideration they deserve and attach too much significance to the blood pressure alone.

7. This tendency often tends to get patients blood pressure minded and produces an anxiety state which causes symptoms not directly attributable to blood pressure.

8. Entirely too much emphasis has been placed on the height of blood pressure and not enough to a careful study of these other necessary factors.

DISCUSSION

Dr. J. M. Bamber (New Orleans): Of all the ills that beset man in the medical category hypertension is surely one of the greatest. Dr. Eshleman's paper is to the point, and there is no question in my mind but that in many households, probably in small communities, the peace of mind rests on the height of the mercury column in the Baumanometer, which, of course, is a mistake. Of course, we have to realize the fact that studies of large groups of people by insurance companies show that the mortality rate is increased in proportion to the height of the blood pressure above a given normal at a certain age. The higher the blood pressure the worse the prognosis. That is that side. I think where we get into trouble is trying to apply that to the individual who is sitting in front of you, like I have done in the past in other kinds of heart disease. It is true that hypertension carries with it a certain amount of danger for the future.

Dr. Eshleman mentions people seen years ago who are still living. I remember one lady I saw in 1912, blood pressure systolic 240. She wanted to live long enough to see the children out of school—they are all married now. She still has high blood pressure and feels better than she did in 1912. Women are scared to death about hypertension during the time of the menopause, because somebody has talked about deaths due to high blood pressure. I have had people to say, "The doctor took my blood pressure and he almost jumped at me and said "Don't you know your blood pressure is 200?" Then the trouble begins, and it is a question hard to manage. It has been said that uncomplicated hypertension has no symptoms and they only have symptoms when somebody tells them they have. It is said again, the symptoms of hypertension are those of nervous origin, each person is a law to himself. You have to keep the neighbors from talking to them, telling them of people who die from hypertension, reassure them, tell them the possibilities, as for instance about this lady who has had hypertension since 1912 and is still living, give them such encouragement as that.

I would like to say a few words about the subject in general starting in with the beginning, the etiology, what is the cause of hypertension. My opinion is for what it is worth, that the combined medical knowledge of the earth to-day in reference to the etiology of hypertension equals exactly nothing. We spoke here yesterday of arteriosclerotic heart disease. The same thing applies to arteriosclerosis—we don't know. So we can dispose of the etiology very quickly.

Now the diagnosis. When people come to the doctor's office and have their blood pressure read for the first time, they are frightened. It will, at times, drop 50 millimeters at the next visit. So we should make observations several times, not the first reading. That is about all one can say about the diagnosis.

What is the prognosis? Well, I have just said about that. I may say this, that it is always more serious in men than in women. People live out their lives with hypertension—we are speaking about the benign or essential hypertension—we won't say anything about the malignant type. The prognosis is good, as Dr. Eshleman said, as long as it is uncomplicated and depends on the individual patient, his willingness to live and persevere, his eating, weight, habits and work, his environment and temperment, man or woman, and has to be handled as that individual and not as one hundred people. So the prognosis is favorable in uncomplicated hypertension.

I would like right here to say a word about treatment. That again depends on the patient. To my way of thinking, there is no treatment for hypertension. If overweight, do something; if nervous, apprehensive, scared, pacify him; if he uses too much of anything that is against him (I don't think that tobacco or alcohol has anything to do with it) if he cannot sleep at night, he can be helped, in addition to advice, by luminal or other sedative, sodium bromide, not continuously, but until symptoms are relieved. As far as anything given to reduce his hypertension over a period of time, I haven't a particle of faith in any of them. They are no better than the sedative effects of the things I have mentioned.

Now, about diet, I have had this happen to me and suppose you have had too. I can recall this woman, pale, anemic, blood pressure way up, hemoglobin way down, that had almost forgotten what meat tasted like. I can recall a few of that kind, when put back on meat their blood pressure remained where it was and their general condition improved, and their hemoglobin and blood count went up. I have no faith in doing without meat but I still believe I have a little fear. I still say "Just have one or two servings of meat a day." I remember a woman I treated at Touro Infirmary whose blood pressure was 280-150. When asked how long it had been since she had tasted meat, she replied, "Five years next March." In five years she had not tasted meat and her pressure was 280. If you see many like that you are certainly bound to lose faith in taking meat away from them.

It has been said that worry was the cause of hypertension. There is good reason to doubt this.

The colored race as a rule do not worry much—but they have hypertension.

Dr. I. I. Lemann (New Orleans): We have heard such an intelligent and complete discussion of the topic from Dr. Eshleman and Dr. Bamber that there is very little left to be said. The topic is so important that I think that those of us who have had some experience with it ought to get up and "bear witness."

I have been interested in this particular group who have had high blood pressure for many years. Several years ago I undertook to find out whether climatic conditions might have anything to do with high blood pressure. I turned to the records of blood pressure taken in various parts of the world, in cold places and hot places, particularly in hot places in the tropics, and I found that a good many records of blood pressure readings in the tropics were very high, and other blood pressure readings in the tropics, and particularly in China, were very low. And remarkable to relate, the blood pressure of the Chinaman is low, and the Caucasian who comes to lead the kind of life the Chinaman leads is also low. So that it is difficult to attribute any importance to the temperature, or to the climate. Perhaps the mode of living is more important. My friend, Dr. N. R. Houston, formerly of Augusta, Ga., has, as many of you know, written several papers of interest and importance upon the occurrence of hypertension among Chinamen, or rather the absence of this disease among Chinamen. He is rather of the impression that the difference is racial rather than one of mode of living.

I would like to refer to several other things Dr. Eshleman spoke of. There is for example, the importance of making renal functional tests. It has been my experience that the phenolsulphonphthalein test is almost always high, even when we have other evidence of kidney impairment. On the other hand, the simple observation of the power of the kidney to concentrate is very reliable. We determine the specific gravity of the urine at various times of the day, after abstinence from food or water, and after taking of water.

I hesitate to say anything more with regard to the treatment of hypertension after the very thorough-going statement of Dr. Bamber. I would like to add to his disbelief in drugs my own emphatic disbelief in any kind of drugs. I think nitrates, vasodilators, all are of no use whatever, and would like to condemn one mode of treatment which he did not mention, namely, purgation. We find it a common thing to have these people with hypertension constantly being purged with Epsom salts, with calomel, and other things; I think to their detriment.

Finally, I would like to make allusion to I think almost the last statement of Dr. Bamber as to the relation of hypertension to arteriosclerosis. I think he will agree, indeed he did agree when he mentioned negroes, that arteriosclerosis occurs frequently where we do not have hypertension, and on the other hand we have many cases with long continued hypertension with no evidence, at least in the peripheral circulation, of sclerosis. We should make a distinction between arteriosclerosis, sclerosis of the large vessels, and arteriosclerosis, sclerosis of the vessels that cannot be palpated. Of this arteriolosclerosis the only evidence, apart from the high blood pressure and the renal changes, is to be found in the retina.

Dr. Hans Schroeder (New Orleans): Recently I saw for an insurance company a colored man, age 50. He was being treated by one of our young colleagues for hypertension. His B. P. was 140/80 when I saw him. According to his statement the doctor told him to eat a small piece of meat, one egg, a piece of fish, and a piece of chicken once a week. I then asked him what he ate. He did not understand me and after explaining my question he told me: spinach, cabbage, and greens.

How any person can keep up strength and courage on such a rabbit diet I do not understand. Gentlemen, if people have phobias about high B. P. the medical profession is to blame. Think of such a fool diet and then perhaps Epsom salts twice a week besides. That's enough to give any layman the creeps—and me too.

I stated in my paper on glaucoma that meat has nothing to do with vascular hypertension and I want to repeat it here. My experience may not mean anything to you, but please look up the literature. McLester's article I referred to gives you the references. Aubry of Paris (J.A.M.A. 104:764, 1935) stated recently that in many cases of hypertension kidney lesions are either minimal or absent.

In the glaucoma case I am referring to, the B. P. was 150/95. An internist said the other day that it was not high, but I say that it is too high for anybody who has been off meat for 8-9 years. After 4 months treatment the B. P. was 130/80, which I consider ideal for a woman of 63.

Dr. A. E. Fossier (New Orleans): There is no doubt Dr. Eshleman brought up a very interesting subject and one that especially demands the attention of every general practitioner, nor that this country has been overconscious of the subject of hypertension ever since the invention of the blood pressure machine—and not so long ago I had one of the original ones. I think phobia has been the cause of many symptoms.

I have been able to observe a case for thirty years, who died very recently at the age of seventy-eight or eighty, had high blood pressure during all

that time and he even developed a murmur in the second intercostal space to the right. His blood pressure went over 200, 220, and we considered it fortunate to be able to keep it down to 175 or 170. These people live in comparatively good health during that time. Phobia is a good deal the cause, and probably the knowledge of medicine that the average layman has is another. You tell a man he has Bright's disease, he sees the end results only of the disease; that he has heart disease, he sees the end results; tell him tuberculosis, sees only the end of the disease; he does not think of the intermediate stage where he can be made to live many years and way above the normal span of expectancy. That is one reason they have phobia. Another is because we ourselves have fear and transmit it to the patient, and they have symptoms following, become introspective, study themselves, magnify every little symptom.

I agree with Dr. Bamber about meat. Years ago I gave up the idea that meat injures any case. Contrary to all teaching, I have allowed my patients the use of meats. I cannot see where they do any harm in these cases.

I have made a strange observation in my consultation cases at the Ear, Nose & Throat Hospital. I have noticed a large proportion of cases of so-called hypertension without any other signs but arteriosclerotic kidney or heart, blood pressure 240 or 250, sent to me because they have cataracts. I don't know the relationship.

I, fortunately, come from a family of whom you may say they never die. I have a grandmother ninety-seven who has been ill with grippe, blood pressure never over 120 or 125. These people live to a ripe old age who have the tension of their early youth. Those who live to an abnormally old age are those who have blood pressure within normal bounds. Therefore, I never could agree with the formula given out by the life insurance companies on the increase of the rate according to age, because I have found that in people who live to be really old it is not the case. Those who live to sixty, sixty-five or seventy, that is the natural span of life, will have a blood pressure of 140 or 150, but if you inquire into the history of those who live to be eighty, ninety or one hundred, their blood pressure remains what it was in their youth.

Dr. Erwin Wexberg (New Orleans): I should like to say a few words about the question from a psychotherapeutical point of view. The question arises as to how to make the patient get rid of the phobia. Even if he understands all the encouraging ideas given him by the physician, he is at a loss to conquer this bad habit of introspection. If he makes up his mind not to think of it, just as surely will he think of it.

In connection with this is the fact that a certain artificial factor has to do with the development of these phobias. You will find many of those people who develop phobia, as a rise in blood pressure, are not busy, or have no work to do, or in other words no interest in life, and out of this vacuum the phobia very often rises. These patients have to be given some positive new interest, or stronger emphasis on interest already existing, or work they are able to do. The psychotherapeutical rule is to keep these patients busy.

Dr. Chas. L. Eshleman (In conclusion): The time is limited and there are other papers to follow. I wish to thank Dr. Bamber and others who contributed to the discussion.

THE IMPORTANCE OF THE EAR, NOSE AND THROAT IN THEIR RELATIONSHIP TO FOCAL INFECTION*

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Dorland's Medical Dictionary defines focal infections as: "Infection in which bacteria exist in circumscribed confined colonies in certain tissues and from there are sent out into the blood stream." We should have a broader view of this definition, since it is well understood that a focal infection does not always mean a bacteremia, but that micro-organisms at times find their way to other parts of the body by way of the lymphatics, and the absorption of toxins from a given focus will often cause disease in remote organs and that allergic manifestations may be caused by the proliferation of bacterial proteins.

It was in 1914 that Billings and Rosenow centered the attention of our profession on the part that hidden foci play in the causation of such diseases as arthritis, nephritis, pyelitis, endocarditis, myocarditis, neuritis, myositis, pleuritis, iritis and others.

The commonly recognized areas of foci causing systemic manifestation are teeth, tonsils, para-nasal sinuses and ears. In children the order is somewhat different, viz., the tonsil, ear, para-nasal sinuses and teeth. The less recognized areas of infection are the other lymphatic

*Read before the Orleans Parish Medical Society, March 25, 1935.

structures of the naso-pharynx and the oro-pharynx, the pharyngeal tonsil or adenoid, the lateral pharyngeal folds, other pharyngeal lymphoid tissue, and the lingual tonsil. Focal infection of lymphoid origin does frequently occur even after the thorough removal of the tonsils and adenoids.

The tonsils on account of their structure and situation most frequently harbor foci of infection which harm distant organs, the hemolytic streptococcus being the greatest offender.

V. V. Wood believes that bacteria gains access to the blood and lymph stream for the production of secondary foci more readily from the lymphoid structures of the throat and the middle ear and mastoid cavities, which have abundant blood supplies and lymph drainage, than from the sinuses in which the mucous membrane is poorly supplied. Since it is estimated that streptococci are responsible for more than 80 per cent of all blood stream infections, we are confronted with the importance of studying the various biologic groups of this organism, the respective cultural characteristics and pathogenicity of the different strains, as well as the serologic problems thus imposed.

The major role played by the tonsils in the production of disease is well recognized and need not be emphasized at this time. We can also assume that the other lymphoid structures of the throat play their part by compensatory hypertrophy after removal of tonsils, whether activated by descending infection from the sinuses or not; however, there is still controversy over the sinuses and the middle ear in this respect.

In considering the middle ear we have to remember that while in most cases of otitis media it can be readily discovered, even when the membrana tympanii is intact, yet there are cases in which serious general infection is caused by aural sepsis which only the most careful examination can detect. Not only may there be no discharge and little or no pain, but the membrane may show but a trifling departure from the normal and yet the septicemia may be otogenic.

The middle ear is a very important port of entry for the streptococcus. Every one is familiar with those cases of sepsis which come secondary to a more or less violent otitis media, localizing in the mastoid process and in which the invasion of the blood stream may not be suspected until surgical intervention reveals a sinus thrombosis or some other equally grave complication. But for the purposes of this paper, I wish to use the term sepsis to denote those symptom groups or diseases which result from general invasion of the body by infectious organisms or their toxins, in which the blood infection or intoxication is predominant in the clinical pictures. The otitis media, which is starting point of the process, may be acute or chronic and with or without perforation of the tympanic membrane. The lateral sinus may become involved in rare cases, without symptoms or signs of the mastoid involvement and with only the systemic symptoms and congestion of the upper segment of the tympanic membrane to suggest the true state of affairs.

The role that the middle ear infections play in affecting the health of the infant and young child is possibly somewhat different from that of the para-nasal sinuses. The middle ear and its accessory cavities, the pneumatic spaces of the mastoid process and the petrous pyramid, are cavities lined with mucous membrane, rich in blood supply, adjacent to large blood vessels and other important structures, with an extensive and well developed lymph drainage system, and easily sealed off from the other by inflammatory swelling of the mucosa, and all from the natural drainage orifice into the epipharynx.

It is not necessary to do more than mention that the infection of the lateral, petrosal or cavernous sinuses, from the middle ear or mastoid, may give the typical picture of septicemia, although almost symptomless cases are observed from time to time because of early closure of the internal jugular vein by a sterile thrombus. Aside from sinus thrombosis there is the danger of extension from the necrotic process to nearby vital structures, the labyrinth, cranial nerves, intra-cranial vessels, meninges and the brain.

Friedenwald and Breitstein state that they have observed involvement of ten out of twelve pairs of cranial nerves due to extension of otitis

media, namely, the optic, the common ocular motor, the trigeminal, the external ocular motor, the facial, the acoustic, the glosso-pharyngeal, the vagus, the spinal accessory and the hypo-glossal. Gradenigo described in 1904 a syndrome which bears his name: suppurative otitis media, paralysis of the ocular motor and intense temporo-parietal pain. He explains this syndrome by the extension of the suppurative process to the petrous portion of the temporal bone, at which level it would press, due to the inflammation of the dura in Dorello's canal affecting the sixth nerve and at the same time making pressure on the Gasserian ganglion.

Greenfeild Sluder describes a syndrome of the spheno-palatine ganglion composed of neuraligia around the eye, ear, root of the nose, throat and palate; hemi-anesthesia of the nose and palate; paresis of the velum palatinum; gustatory disorders of the middle third of the tongue on the affected side. The lesions of the facial nerve are the most frequent complication of otitic affections. This is due to the proximity of this nerve to nearly all sections of the ear.

Otitis media and mastoiditis may give origin to numerous ocular phenomenon some of which constitute true ocular complications and others correspond to intercranial processes of otitic complications. By bacterial emboli or thrombosis of the ocular arteriols there may occur multiple retinal hemorrhages, epi-sclerotic nodes, iritis choroiditis and pan-ophthalmitis. By venous congestion of the retina in complete thrombosis of the lateral sinus, there may occur from the slightest edema to intense papilitis. Orbital cellulitis with multiple ophthalmoplegias may occur by the propagation of extra-dural abscesses along the whole length of the middle cranial fossa to the orbit through the inferior orbital fissure.

The sinus infection problem is of interest not only to the rhinologist, but also to the general practitioner who comes in contact with these cases daily and recognizes and refers them to the otolaryngologist for treatment. The general pathologic products of accessory nasal disease may be absorbed directly into the lymph or blood streams, whence they are carried to distant parts of the body giving rise to a general septic state which may be either violent or mild. When the blood stream or lymph channel is once invaded from an infective focus, persistence of its evil effects is the rule, even for a considerable time after the original source of such infection has been eradicated. Indeed after new foci are once established, elimination of the original source of the disease may have but little effect on the severity and progress of the complication. Attention should, however, be called to the fact that the several foci of infection in the head other than the nasal sinuses may be involved either separately or together on the production of any general complication. For example, an arthritis may be the sole and direct result of a suppurating antrum, or it may be due partly to the antrum and partly to a coexistent tonsil infection. Observers and writers on general medical subjects are more familiar with focal infections arising in the teeth, tonsils, gall-bladder, etc., for the reason no doubt that the latter sources are more easily investigated. Hence, they have most often assigned the cause of general complications to sources other than the sinuses. The number, size, and location of these sinuses and the frequency with which they are diseased makes it certain that with the possible exception of the ear and its labyrinth of associated cells, the nasal sinuses stand first among infective foci responsible for serious complicating diseases. Internists have been foremost in their investigations of focal infection and to them credit is due for many recent advances in etiology and treatment. The subject still deserves wider recognition for it is true beyond question that serious and even fatal disease not infrequently originates solely in the labyrinth of the paranasal sinuses. It is equally true that many ailments originating in these foci, while not immediately serious or fatal, finally become so, and are meanwhile a menace to the comfort and well being of those so afflicted.

All complications of sinus disease are due primarily to previous bacterial invasion of the one or more sinuses. Every cause operating to produce the primary sinus infection is, there-

fore, a cause of the complication. Since but a comparatively small percentage of cases of sinus infection are followed by complication it becomes necessary to seek reasons for its occurrence in some but not in all. Such reasons are based either on the character of the anatomy of the given sinus or upon the virulence of the invading bacteria. The main reasons are, therefore, either anatomical or pathological. The situation of the sinuses at the top of the respiratory tract, wholly above the digestive apparatus, favor the entrance by gravity of septic material from the sinus into the pharynx, larynx, and the bronchial tree, or into the stomach and intestinal tract.

Evidence is offered that may be considered suggestive of the role of the intestinal tract in producing such toxemia, the intestinal pathology being apparently secondary to and dependent upon infection in the nasal chambers and accessory sinus cavities. Gravity is therefore, at least in part, often responsible for certain respiratory and gastro-intestinal complications. In the presence of a sustained para-nasal sinus infection, one might expect then, that from repeated bacterial dosage through swallowing post-nasal muco-pus, there would occur bacterial growth in the intestinal tract of the identical pathogenic strains found in the infected sinuses. Such a growth over a wide area should logically result in considerable production of toxins, the absorption of which might well give rise to general manifestations of infection. Parkinson in his investigations of the cultures of nasal and rectal bacterial flora made of each patient found that there was apparently more than a casual similarity in the pathogens grown from these two areas in each case. These findings seem to suggest that intestinal infection may occur secondary to infection of the para-nasal sinuses and may play an important part in the production of the toxemia of sinus disease.

The cerebral affections are the most dangerous complications of the inflammatory diseases of the accessory sinuses. They concern changes of the dura and pia mater, the brain substances or simultaneous change of several of these organs. Consequently these changes result in extra-dural and intra-dural abscess, pachy-meningitis and lepto-meningitis as well as regional brain abscess. A not infrequent form of extension of the inflammatory products is that resulting from thrombo-phlebitis. Only a relatively small number of cases of serious meningitis with recovery have been observed.

In the medical literature of a century ago various eye disturbances were attributed to "snuffles" or some similary vague intra-nasal disease. While there has been a steady accumulation of data on the relationship between eye disease and nasal infection, it was but recently that anything like a scientific explanation could be made. This naturally followed the epoch making study of Onodi in 1908 on the anatomical relationship between the accessory sinuses and the optic nerve and later contributions by Loeb, Skillern, Sluder, De Schweintz and others. It was not however until radiography had reached its present stage of development that infection within the various sinuses could be definitely located and excluded. The sinuses, owing to their intimate relationship with the orbit, have been considered the most common source of eye infections. Thickening of the orbital periosteum by infection within adjacent sinus is frequently the cause of persistent edema of the lids, conjunctivitis, keratitis, scleritis, uvelitis, choroditis, cyclitis, retrobubar and optic neuritis. The most important of the eye disturbances arising from infections in the sinuses are those involving the optic nerve. This is largely due to the fact that the optic nerve is particularly susceptible to the actions of toxins. The focus of infection in many instances is located with great difficulty.

The anatomical relations between the optic nerve and accessory sinuses are of vital importance. Onodi investigated the relationship thoroughly and his findings furnish the anatomic foundation for the theory of blindness from accessory sinus disease. He demonstrated by several distinct anatomical findings the possibility of double-sided and contra-lateral blindness from one-sided sinus infection. Our observations, Onodi says, have shown that the wall between the last ethmoid cell and the canalis opticus is nearly always as thin as tissue paper, dehiscences in the walls of the accessory cavi-

ties have been found, where the diseased mucosa may come into direct contact either with the dura mater or the optic nerve sheath.

We may say, in summarizing the situation, that each mucous lined cavity, bony or otherwise, of the head, is a potential focus either directly or indirectly and in searching for such a focus, the combined knowledge, skill and patience of the interist, general surgeon, pathologist and roentgenologist are needed, due to the fact that the co-operation between all of these is a prime requisite to the better management of such cases, so that no portion will be overlooked. Every part of the pharynx and fauces should be examined with care. It is not enough to know that a tonsil operation has been performed. The fossae must be examined for stumps, tags, regrowths, and small crypts concealed behind the pillars or beneath scar tissue, compensatory hypertrophies of the lateral folds, and isolated lymphatic masses in the posterior pharyngeal wall containing crypts filled with presumably infectious material, infected adenoids remnants, often surprisingly large and the commonly overlooked lingual tonsils and infratonsillar lymph nodes. These tissues may all be primarily infected, may cause acute infection of the accessory sinuses, and prolong chronic infections of the cavities. These tissues are frequently secondarily infected by sinus drainage, causing in their turn focal infection either toxic or actual elsewhere. We should carefully examine the ear for any slight change in the drum membrane either in color, light reflection, or position and slight drooping of the posterior-superior canal wall, as it may be the only indication of a virulent middle ear or mastoid infection. Slight difference in trans-illumination of the sinuses, change in the color or appearance of the nasal mucosa, the observation of even the small quantities of pus or mucus in the middle or superior meati, after the application of negative pressure, or in the chornea and drooping behind the palate, light bogginess of the turbinates, the cytologic and bacterologic study of maxillary sinus washings, may give the clue that leads to the discovery of a chronic almost symptomless sinus infection. Laryngitis, tracheo-bronchitis, bronchiectasis and other lower respiratory infections are often caused by gravity extension of infected secretions from these areas, as well as by direct extension downward of inflamed mucosa. Efficient treatment of the nose and throat not uncommonly results in a cure of an intractable case. Some allergic conditions have their origin in the sinuses and the throat. Many affections of the joints—both acute and chronic—kidneys, gastro-intestinal tract, the heart, the eyes, the blood and the glandular system are due to focal infection, no matter how the latter may be defined, and it seems safe to say that the majority of these may originate in the upper respiratory tract.

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CONSERVATIVE TREATMENT OF DISEASES OF THE EAR, NOSE AND THROAT*

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NEW ORLEANS

It would be impossible in the time allotted to this paper to present a comprehensive survey of the conservative treatment of diseases of the ear, nose and throat, hence your essayist has chosen to consider the trend of oto-laryngological thought as regards therapy in the light of the more recent research findings. Much work has been done in recent years on the histopathology and physiology of structures under

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consideration which may force the abandonment of some of our older methods of treatment. Modification of many others seems assured.

The defense mechanism of the organism has been studied and much learned. To strengthen this mechanism when threatened by disease, is the role of conservative treatment.

It has been found that the defense mechanism of the nose and para-nasal sinuses consists chiefly of two factors, movement of the cilia and thin mucinious layer that envelopes them, and the phagocytic action of the micro, and macrophages and the reactions of natural immunity both local and general.

During a period of normal function the bacteria present are caught in the mucinious layer and removed to their desctruction by the action of the cilia of the epithelial layer. Of the factors that tend to break down this defense, we must consider faulty diet, body chilling, poor ventilation, trauma, improper drainage, metabolic irregularities and allergic states. One or more of these factors working together cause a slowing of ciliary movement, the organisms allowed to mass for attack; the mucosa is invaded; secretions become stagnant; the sinuses become involved and a vicious circle is established. Conservative treatment in this instance would consist in, viz.: 1. A determination if possible of the offending factor or factors. 2. Restoration of proper drainage and ventilation. 3. Re-establishment of ciliary movement. 4. Destruction of offending bacteria and their toxins. Careful history taking will frequently show us the cause of the lowered resistance and suggest its proper treatment.

Recent investigations have shown that many of the agents used in the past either slow or destroy ciliary action, and tend to further break down our natural defenses. Of these, solution adrenalin, menthol, thymol and eucalyptol have a depressing effect upon this action. Ephedrine in 3 per cent solution and cocaine in solutions of 5 per cent or less and the mild silver protein solution would from these studies seem to be more available for use as they are less injurious to this valuable physiologic function. Application of solution ephedrine to the swollen mucosa and especially in the region of the sinus ostia serves to shrink the mucosa; hence improving ventilation and drainage without disturbing the action of the cilia will be found helpful. Drainage may be further improved by the use of cotton packs saturated in 10 to 20 per cent solution of the silver proteins, argyrol being more commonly used for this purpose. Stagnation within the sinuses may sometimes require their removal by irrigation either by way of the natural ostia or by puncture of the sinus wall. In the event the defense mechanism is impaired frequent recurrences may be prevented by the use of vaccines, either stock or autogenous. The latter have been of the greater value to the writer in the handling of these cases. Diets and preparations containing the vitamins A, B and D are highly recommended.

It is obvious that when these conservative measures have failed; when the sinus mucosa has undergone marked hyperplastic or metaplastic changes and is no longer able to free these cavities of infectious materials, surgical replaces medical treatment as a conservative procedure.

The allergic conditions are receiving a great deal of attention in our medical literature. A discussion of their treatment could not be attempted in a paper of this length. For their efficient handling, it requires the closest cooperation of the internist, allergist and otolaryngologist. Their careful study and treatment along purely scientific lines should precede the types of local treatment that serve only to relieve and sometimes result in a destruction of mucosa that by the suggested conservative would have been restored to normal function.

Any discussion of pharyngeal therapy must take into consideration the differences in function and structure of the three anatomical divisions of the pharynx. In the naso-pharynx the same ciliated epithelium is found that is present in the nose and sinuses. The stronger solutions that may be used on the squamous celled epithelium of the oro-and hypo-pharynx would neither be indicated nor tolerated. For therapeutical discussion it is best to consider the naso-pharynx as a continuation of the nose

as regards structure and function, and the same general consideration of therapy observed.

The mucosa, in addition to handling the toxic products of its own inflammatory reactions, must in addition care for those of the sphenoid and post ethmoidal cells, and not infrequently are the secretions from the frontal and maxillary sinuses discharged downward over this mucosa to the throat. Often adenoid congestion or hypertrophy complicate the problem. Especially is this so during the earlier years of life. In acute naso-pharyngitis ephedrine solution by its vaso-constrictor action improves drainage and ventilation. Argyrol or neo-silvol provide slight astringency and are antiseptic. Liquid guiacol in olive oil or glycerine is both sedative and antiseptic and is excellent for topical application.

Acute infections of the oro-pharynx may be treated with the stronger antiseptics as the squamous celled epithelium is more resistant to these agents. Hot gargles and douches are of value, probably more from the effect of heat than from their chemical content. Systemic treatment is probably of more importance than the local care in acute tonsillitis or pharyngitis. From clinical observations Vincent's angina is becoming more prevalent. Applications of Fowler's solution of arsenic with frequent gargling of warm bicarbonate of soda solution will be found satisfactory in most cases.

It is no longer believed that the tonsils and adenoids should be removed without any definite reasons for the procedure. If they become hypertrophic to the point of being obstructive or prove to be chronically infected, then thorough removal is the most conservative treatment.

The tendency of the laryngeal mucosa to become edematous during acute inflammatory reactions would suggest a word of caution in the treatment of such conditions. Mildly sedative and antiseptic preparations should only be used for direct instillation. The more irritating preparation should be avoided. Three per cent creosote in olive oil is particularly effective.

The conservative handling of acute and chronic suppurative otitis media and acute involvements of the mastoid cells would seem of the greatest interest to the medical practitioner.

The crying need of the acute ear is drainage and this does not necessarily mean tympanotomy. In the absence of severe pain, a bulging tympanic membrane and marked febrile symptoms the mouth of the Eustachian tube should be attacked first, attempting to drain the tympanic cavity through the natural route, the tube. Applications of solution ephedrine or neosynepherine to that tubal orifice; followed by 10 per cent solution of one of the silver proteins ofttimes will produce satisfactory drainage and a rapid subsidence of symptoms. Mastoiditis is at present believed due more to the violence of the invading organisms and the character of the cellular structure of the mastoid process rather than to delayed tympanotomy. The above is not to be construed as opposing an indicated tympanotomy but a warning against ill advised incisions of every reddened drum membrane. In the event the mastoid becomes involved during acute otitis too early surgical interference is to be avoided unless the symptoms present make it imperative. The delay of a day or two and often a week or two enhances the chances of a successful operation. An early skiagram is advised, not so much to determine the amount of involvement of the cells as to determine their character. If found sclerotic, mastoiditis is not expected; if diploic, osteo-myelitic in character; if pneumatic, a coelescent mastoiditis of the most usual type.

The success of any conservative treatment of chronic otorrhea is dependent chiefly upon the skill and patience of the otologist. A great deal of time must be given many of these ears to carefully cleanse and to determine the exact location and character of the lesion in the tympanic cavity. Such ears, however, should be given the advantage of such care unless there are evidences of a present or impending intracranial lesion. For the latter, radical mastoidectomy with or without labryinthine drainage becomes the conservative procedure.

Malignant growths may attack any of the structures of the ear, nose and throat. Some are so located that complete surgical removal is impossible. Cointard's method or modifica-

tion of his method of fractional irradication prolonged over a period of time offers renewed hope to these sufferers. Many of the most malignant neoplasm types are found to be most radio-sensitive. Biopsy should be preceded or immediately followed by irradiation. This is likewise true of all surgical procedures.

In closing, am quoting from a recent paper of Babbitt's: "In this transitional period, with the prospect of great awakening from scientific research, now well in hand, it behooves clever otolaryngologists to stand in the front rank, grasp proven guide posts and at least present the conservative rather than the surgical trend of mind".

DISCUSSION

Dr. C. A. Weiss (Baton Rouge): Gentlemen, I want to thank the essayist for giving me the privilege of discussing his paper. Conservatism is an extremely good measure when applied to any field of medicine. When applied to our own field, in which so many surgical indications are present, I think it is doubly applicable.

The essayist covered very nearly everything in his paper, so I think the only thing I can probably do is to endorse everything he has said.

When we consider that the nose and throat are the gateways of the respiratory system, through which must pass those gaseous elements so essential to our existence and the modifying influences of warmth and moisture exerted upon the inspired air by the tissues of the nose and throat to make it acceptable to our lungs, it behooves us to temper our surgical procedures in these regions with conservatism.

Careful observation and study of our cases considering the smallest enumerated details, evaluating all extrinsic and intrinsic contributing causes, individual, hereditary, environmental, industrial, constitutional allergic or otherwise. Watchfulness over hygienic surroundings, at school, home and at play. Dietetic supervision and regulation, both from a nutritional and adequate Vitamin standpoint. Not too dogmatic but regulated in such a way as to eventually produce the desired results. There is usually a not sufficient variety in the diet of children with too great leaning to the favorites of childhood. Remedial therapeutics indicated by the sympathology of each individual case. Lastly surgical proceedures, directed conservatively to assisting rather than radically destructive to the normal tissues and natural defenses of the body.

There are unfortunately many patients to whom the ostentatious surgical procedures appeal more than the more modest therapeutic ministrations. It is against these individuals who seek what they term the quickest way that we must guard ourselves.

Preconceived diagnosis on the part of the patient, parent or friend and intimated diagnosis and remedial measures by the attending physician or medical friend, must not influence the otoloyngologist in the careful painstaking examination of his patient.

In the nose, drainage is not wholly dependent upon gravity and position as is plainly exemplified in the location of the natural outline of the maxilly antrum. The movement of the secretions is largely dependent upon the natural functioning of the ciliary tissue. The action of the cilia is modified or entirely checked by varying stages of inflammation, mechanical or traumatic destruction, and the viscosity of the secretions. It has also been demonstrated that the reticulo-endothelial cells of the sinus mucosa have phagocytic powers. Dr. L. W. Dean has called our attention to the existence of sinusitis in children of one and two years of age. If this condition is neglected, or should become chronic by repetition it will result in a change in the character of the nasal and antrals mucosa. Instead of the normal ciliated columnar epithelium, the tissues assume the character of stratified epithelium and the cilia gradually disappear. The secretion from stratified epithelium is thick, mucopurulent, ropy and tenacious. It is this pathological secretion which drops into the naso-pharynx, covers the posterior pharyngeal wall, tonsils, larynx and bronchi, spreading infection in its contact, and responsible for a train of symptoms wrongly blamed upon an innocent pair of tonsils or adenoid.

A routine tonsillectomy and adenotomy in these cases will often prove disappointing to doctor and patient.

Conservatism in sinus surgery has fully demonstrated its justification in better functioning and less troublesome noses, compared to the ever dry, scabbing, abnormally functioning noses and naso-pharynxes of a few years ago when surgery in this region was more radical than that of today.

Dr. Hans Schroeder (New Orleans): The late Dr. Lynch said in 1927 that five years from then not so many tonsillectomies would be done, but last year nearly 12,000 such operations were performed in Charity Hospital alone. Indeed, medical progress is slow.

Rabinowitch of Montreal (Tr. Am. Acad. Ophth. 37:65, 1932) says that "one cannot with certainty differentiate between normal and diseased tonsils without microscopic examination of tissue. Infection of the tonsils may be obvious, but the infec-

tion may be so well localised that there is little or no absorption of toxic material, with little or no effect upon the general metabolism. Failure to note improvement of many conditions for which the tonsils were removed during the world-wide epidemic of tonsillectomies may probably be explained by such harmless foci of infection."

Dr. William A. Wagner (New Orleans): I want to apologize for discussing another paper, but thus far Dr. Hume's paper is the most interesting paper that I have heard before the section meeting. I have enjoyed it more than any other paper I have heard. I say I have enjoyed it more because it is conservative. A lot of men might believe that I am radical. We have the radical surgeon and we have the conservative surgeon. I have been getting a little astray, probably, in the minds of a number of men in their belief that I am radical. I have done the pansinusectomy, which constitutes the eradication of the mucosa from all of the sinuses on one side, in one operative procedure. That in the minds of some seems to be a radical operation. In my mind it is conservative, in that nothing else is going to suffice in getting that patient well. Consequently I institute that as conservative, but you might call it radical treatment. I believe we should make a discrimination between conservative and radical, and no matter whether the precedure when indicated is minor or considered conservative or major and considered radical we should call it rational treatment. I believe rational treatment is the proper treatment for sinusitis.

I believe when a sinus infection has reached a certain stage in its pathologic process where recuperation can no longer take place, the sooner we can get that out of that sinus the sooner we hope to get a better patient. I believe in those instances we are forced to subject those patients to a radical type of procedure in the minds of some physicians, but in my mind, rational treatment. I am a conservatist, not a radical. I do not believe in being radical. But I believe our big problem today is not how to handle the type of sinus that will not recuperate under any form of treatment, but how to avoid those cases which come into the category of recuperable lesions of the sinuses from entering into the group that necessitates complete removal.

That type of patient is the one type we are confronted with today, that we should abolish. We should abolish that patient, prohibit him from entering into the category that needs the eradication of the mucosa. That group is by far the largest number of sinus patients today. That is the group which in previous years had the tinkering surgery, the incomplete surgery, the surgery upon the one or more sinuses in the face of the other normal sinuses which forced the patient not toward the road to recovery but toward the road of radical surgery. And I think it is that group that Dr. Hume has in mind. And I really enjoyed that paper, because we should get behind that group of patients and we should get them well. Our problem is how can we do it, and I believe that one of the avenues of approach is the building up of the resistance organism, from the standpoint of the humoral factor and the cellular factor. We should build up the resistance of the patient in the light of the histiocytes and the other phagreytic round cells, the lymphocytes and the polyblasts, and so on.

I believe there might possibly be some future in the pathogen selective vaccines that Solis-Cohn brought to our attention last year at the American Medical Association, and I think we should try them. It is the only selective vaccine method described in Kolmer-Kruner's Laboratory Technic. I think that is one of our future avenues of approach for these patients whose mucosa are recuperable, to not let them get into the stage where it takes a so-called radical procedure to get them better. I think if we could handle all those patients that way we could abolish my pansinusectomy. I mean that. But who is going to keep the patient from being negligent and from reaching into the category of the metaplastic, the far-advanced hyperplastic, the degenerative and the atrophic mucosa. Who is going to do that? It is up to all of us, and at least I feel that I am going to make my attempt at it, and I am going to use the resistant part of the organism, the constitutional factor with which to do it. I am going to try Solis-Cohn's suggestion of Kolmer's selective vaccine method. I have been trying it, and I have some confidence in it.

Dr. Otto Joachim (New Orleans): I have been in the practice for quite a number of years, nearly fifty years, and I used conservative treatments at the beginning and went to the radical and went back to conservative again.

The paper of Dr. Hume was an excellent one, and it is to be commended not only to the specialists but also to the general practitioners, in order to avoid the recommendation for operative procedure which has been in a way forced upon us in many instances by the general practitioners.

When the general practitioner looks for a focal infection and does not find it, he asks us to remove the tonsils. As Dr. Elliott suggested, there have been more tonsils removed in the last ten

years than in the last two thousands years. How many of these tonsils should have been removed and should not have been removed is a matter of individual judgment. For myself, I take the point of view that we should not remove any tonsils and the specialist should not remove any tonsils until there is an actual and practical reason for doing so. Just the mere presence of the tonsils is no reason for their removal. As has been brought out by Dr. Hume, very often the infection of tonsils or of the teeth is of no danger to the system. This does not apply only to the tonsils. It applies to the paranasal sinuses as well. There is probably less reason to interfere with the paranasal sinuses unless they are pathologic than with the tonsils. In the nose we have to deal with a physiologically important functional apparatus, and the preservation of that function is one of great importance often to the patient. I endorse and do not dispute the necessity of operative interference when necessary. There are many cases where the changes have become so intense and so aggravated that the removal of the ethmoidal sinuses or the radical maxillary operation of the sphenoid operation is indicated and unavoidable. But in many other cases such measures as Dr. Hume advocated will bring about a satisfactory result, if we give our patient the benefit of a thorough constitutional examination, a thorough constitutional observation over some length of time, investigating all possibilities of pathology and not forgetting the preservation of physiological function.

The removal of much of the mucosa of the nasal membranes is very important, because it does interfere very largely with the physiological functions. The use of the physiological functions can often be preserved by what Dr .Hume has emphasized and I try to emphasize, and the practical point of his paper is to do away with that furor of desire to operate almost any case that presents itself, as we have up to recent years quite often observed. The tendency of those with more mature minds and long observation in these diseases of the upper respiratory tract shows that the conservative measures often bring results not only comparable but superior to those results in the cases that have been operated upon.

As to the question of the ear, there we have very often, as the former speakers have also noted, a condition of transient congestion, particularly in the earaches of children, which need not necessarily be at once subjected to a pracentesis of the dull membrane. I often observed patients to whom radical procedure has been recommended and urged and have refused it. If you see them a year or two afterwards they are practically well. Temporizing has cured earaches. We should just temporize it until we are sure that there is not only an accumulation of infectious material but of infectious material in the middle ear which is dangerous and progressive. In all the other cases we can temporize and see if that is not one of those cases of earache which will often subside in a day or two.

I will close with a recommendation that all of you will consider the very admirable paper presented by the doctor to the best of your ability, and consider also that we who have had long years of observation are highly conversant with it and favor it.

Dr. M. P. Boebinger (New Orleans): Mr. Chairman and Gentlemen: I want to congratulate Dr. Hume on his splendid paper. Conservatism is worth thinking about, more especially when I recall having read some years ago of the promiscuous slaughtering of tonsils. It makes one think it is wise for us now to consider conservatism.

The doctor brings out some very important points in the treatment of nose cases. I want to add just one little stunt that I use, and that is to place a pack beneath the middle turbinate, with a string on the end of it, or, better, a No. 8 thread. This pack is saturated in anything that you may choose. You will find it advisable to dip this into a little adrenalin and some cocain, adding a little antipyrin, to prolong the time, and then you may dip it into a little argyrol. I sometimes use a half of one per cent of silver nitrate.

The pack is placed beneath the middle turbinate, with the string extending from the end of the nose, and the patient or parent is told to remove it about 4-6 hours afterward. I get better results by doing that rather than placing the pack temporarily while the patient is in the office.

The use of the suction apparatus was not mentioned by Dr. Hume, and I hope that I will not be misunderstood when I say I believe I am the first man in the United States who used it, as it is now used. I do not mean the old bulb that was originally brought out by Dr. Coffin in New York. I use it from the age of four, on up. At the age of four the sinuses are considerably developed and the use of the suction apparatus will give splendid results. Thorough shrinking of the mucosa before the use of the suction will assist materially.

Dr. J. Raymond Hume (New Orleans): I want to thank all of the doctors for their fine discussion of this paper, and I do not believe I have any

particular remarks to make about any of the statements.

I should like to emphasize in closing that I believe the research that is being done in this country and abroad, and much of it is being sponsored by the American ear, nose and throat organizations, is going to bring some real results. With the cooperation of the physiologists and the bacteriologists and the internists, we are rather hopeful of the future.

The only question with regard to the treatment was a question that Dr. Boebinger brought up. I did not mention the use of suction and I did not mention the use of adrenalin, because in the light of some of the newer researches anything that interferes with the submucosa and its mucinous envelope is going to interfere with the natural defense. If we are going to agree with the physiology as a fundamental from which we must get our ideas of therapy, we are going to have to agree that the things we have proven are going to interfere with natural defenses should not be used.

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Daniel N. Silverman, M. D.	L. L. Minor, M. D.
C. C. DeGravelles, M. D.	R. B. Caldwell, M. D.
M. D. Hargrove, M. D.	Thomas J. Brown, M. D.
J. B. Vaughan, M. D.	Willie H. Watson, M. D.
C. A. Lorio, M. D.	H. Lowry Rush, M. D.
C. A. Martin, M. D.	Jos. E. Green, M. D.
King Rand, M. D.	W. H. Frizell, M. D.
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1430 Tulane Avenue

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MEDICAL ECONOMICS

Some personal observations of health insurance in England leave very definitely the impression that health insurance has some very decided advantages, but which are, on the other hand, offset by many disadvantages. In favor of the English method of dealing with the indigent sick and the low income group, is the fact that the doctors receive at least some monetary return for the time and for the brain work that they spend on the indigent and those just above the indigent group. The returns, however, are small, and in order to obtain a living wage it is necessary for the physician to have a large panel which obligates him to do a tremendous amount of work, work which must be done very often in the evening and at night, so that there is little leisure for study or reading or recreation. The feeling among the better English practitioners is that panel practice is deadening. The long hours and the large number of patients leave little time for anything but the most routine and perfunctory type diagnosis and treatment. The medicine as practiced is, to say the least, not high grade. The patients receive a minimal amount of attention and a large number are handled in comparatively short time. While this is a criticism which can not be disputed, it must not be forgotten in many of the large medical and surgical clinics of the big cities of the United States much the same type of medicine is practiced.

Another deadening influence is the life long tenure of the job as a panel physician. This is a criticism which holds true of many physicians who hold positions which yield them an assured livable income for their life time, unless some very gross violation of medical ethics or of medical practice makes them medical outlaws. The person who has such a position very often is quite content to go along in a groove, not advancing any possibly if not retrogressing, at least standing still.

Another complaint is that the doctor is so definitely under the thumb of a lay executive. This is certainly one of the great objections that the medical profession of the United States has to the governmental control of sickness. The non-medical person is not qualified to decide questions which have to do with health and illness. On the other hand, it is possible that they may be better qualified than the physician to handle the social problems that are bound to come up when the poor man is taken ill. Certainly the physician in any scheme or plan to take care of the large number of the population who are unable to pay physi-

cians' fees should have the chief say and adequate representation on the controlling body, although of course other groups must be represented.

Another fault with the insurance scheme is the abolition of the personal physician-patient relationship. The patients on a physician's panel, it is true, have a certain freedom of choice in the selection of their physician, but this is theoretic rather than factual. They pretty much have to go to the nearest and most available panel physician, who realizes that this is the case. Such obligations do away with the personal relationship of patient and physician. Loss of a whole-hearted trust in the professional skill and honor of the doctor is a distinct physchological disadvantage to the ill man. Our medical profession in the United States realizes this and above everything else is insistent upon the maintenance of that friendly and dependable relationship which should exist between doctor and patient.

Organized medicine should lead public opinion in promulgating plans for insuring against sickness. They should have a very definite and positive leadership in such schemes. It is up to all of us to help mold public opinion, by the spoken and written word, as to the importance of medicine, initiating and controlling any plans which have to do with governmental assistance in the care of the indigent and the low income group.

THE GEOGRAPHIC INCIDENCE OF STREPTOCOCCUS DISEASE

It has been shown by numerous statistical papers that rheumatic fever is common in the North, in the cold sections of the world, and relatively rare in the tropic regions. The recent study of Seegal and his co-workers* is of particular interest in that three important streptococcal diseases, rheumatic fever, scarlet fever, and acute nephritis are contrasted in their incidence in hospitals as far North as Canada and as far South as the Charity Hospital and Touro Infirmary in New Orleans. They show that at least of the three diseases caused by hemolytic streptococcus, rheumatic fever in latitude 50°-45° may make up as much as five per cent of the total admissions to the hospitals, whereas in latitude 34°-29° the average is well under one per cent, a striking difference in incidences in the disease according to the latitude. Scarlet fever likewise is very much more common in the North than it is in the South, and the incidence of these two diseases in different latitudes is graphically illustrated most convincingly in this article. However, the occurrence of acute glomerulonephritis in southern latitudes is almost identical with that in northern latitudes. As a matter of fact, there is very little difference between the groups of hospitals in the North, Central, and South latitudes. These authors also draw attention to the fact that the incidence of the first two streptococcal diseases is greatest in the winter. That glomerulonephritis is a streptococcal disease has been quite well substantiated in the past, but further evidence comes from Longcope's Clinic* at Johns Hopkins. In a publication in which infection and nephritis are discussed, workers there note that of 78 cases of hemorrhagic nephritis all but 11 showed a casual relation to hemoyltic streptococci. The ultimate prognosis in these cases seemed to depend largely on whether or not the preceding infection which antedated the succeeding nephritis was an acute or chronic expression of infection which, parenthetically, is usually in the upper respiratory tract. The nephritis of acute infection with an acute onset, apparently as a result of prompt development of resistance to the infection, gave a very much more satisfactory prognosis than those cases of nephritis which developed during the course of chronic infection.

***Seegal, David and E. B. C., and Jost, Elizabeth L.: A comparative study of the geographic distribution of rheumatic fever, scarlet fever and acute glomerulonephritis in North America, Am. Jour. Med. Sci., 190:383, 1935.**

***Winkenwerder, Walter L., McLeod, Newt, and Baker, Myles: Infection and Hemorrhagic Nephritis, Arch. Int. Med., 56: 297, 1935.**

Seegal in the concluding sentence of his article states that "The varience in the geographic distribution of these diseases, based upon the limited data, presents a problem in specific host and bacterial interaction." May it not be that rheumatic fever and scarlet fever, representing two types of acute reaction to infection with the hemolytic streptococcus, are furthered in the North by such factors as close confinement, intimate contact, absence of sunlight, and exposure to cold, and hence are more frequent diseases in the colder localities, whereas acute glomerulonephritis, in the South at least, represents reaction to infection which may be largely chronic and not precipitated by social conditions as are the other two diseases?

HOSPITAL STAFF TRANSACTIONS

J. T. NIX CLINIC
New Orleans

At a meeting held in September, Doctor Lucy S. Hill presented the following paper.

THE ETIOLOGY OF EPILEPSY

Epilepsy, a disease known to the ancients as "The Sacred Disease", is in many cases still as mysterious and baffling to the modern physician as it was in the Dark Ages, despite the advances and researches of modern medicine. The scope of the term epilepsy, however, has been gradually narrowed as more and more causative factors have been found which serve to furnish the exciting element and this in turn removes one more group from that large group which we now designate as the epilepsies or as essential epilepsy.

The matter of the cause of the epilepsies has been and still is a field where speculation has been rife, many theories advanced, and much research work done in the attempt to find the causative agent behind the epileptic attack, which may vary from a mere momentary loss of consciousness to a violent generalized convulsive seizure. Repeated postmortem examination of the brain and cord of epileptics by competent investigators has not given us a characteristic pathological picture which would enable us to designate epilepsy as a definite organic disease of the central nervous system. Because of the apparent fruitlessness of research along this line, many men have turned their attention and efforts in another direction and at present we have various theories being presented.

Several years ago the idea was advanced that the production of an alkalosis with its accompanying water logging and anoxemia would produce convulsive seizures in susceptible individuals. If this were true, then the production of an acidosis with its accompanying dehydration and increased oxygen tension in the tissues should serve to prevent the appearance of epileptic seizures. Experimental work along this line of thought has been done by many clinicians.

Lyon and Dunlap approached the matter from four aspects. The first patient was used as a control; the second was given a ketogenic diet; the third, a dehydration diet; the fourth, a ketogenic diet and luminal; and the fifth, a dehydration diet and luminal. In all four there was a diminution of major seizures and occasionally an increase in the number of minor seizures. The addition of luminal seemed to be more efficacious than either the ketogenc or dehydration diet alone. They concluded that treatment by means of dehydration or ketogenic diet was not particularly encouraging in adults and that as a treatment to be given in the home was very difficult unless the patient was unusually intelligent and co-operative. The results of other physicians in the treatment of epilepsy in children by means of the ketogenic diet or dehydration method or both, under hospital regime, have been more encouraging. H. R. Coodler has reported that 34 per cent of the children in his series showed improvement and 50 per cent showed freedom from attacks. Helmholtz and Keith, after experimental work with the ketogenic diet covering a ten year period, report success in 40 per cent of their cases.

James Collier has advanced the theory that all epilepsies are due to some underlying metabolic dyscrasia peculiar to the individual plus some secondary factor, such as a cerebral lesion, uremia, or intoxication of some sort. He divides the community into three divisions—(1) those in whom no metabolic dyscrasia is present and therefore no seizure can be provoked; (2) those in whom the metabolic fault is present to a minor degree and secondary factors such as intoxication of some sort will provoke seizures; (3) those in whom the metabolic dyscrasia is present in a high degree—this third class giving those known idiopathic epileptics. Collier also noted the presence of alkalosis where attacks were frequent, the disappearance or decrease of attacks in the presence of acidosis, and a sudden drop in blood pressure accompanied by facial pallor. In view of the above he advances the suggestion that the epileptic attack may be a protective action by nature to avert a dangerously falling blood pressure and alkalosis. The customary idea now of epileptic seizures as due to a loss of function either local or general in the higher centers also permits the

explanation of convulsions and hallucinations as a release phenomenon.

Valuable contributions to the study of epilepsy have been made by Spangler in his study of the relationship of epilepsy to allergy. He finds clinical, hereditary, immuniologic and therapeutic evidence which points to allergy as the causative factor. Hypersensitiveness to cow's milk was often the etiological factor in the development of infantile convulsions. This is substantiated by the fact that out of 62 breast fed infants, 12.9 per cent had infantile convulsions, while out of 38 bottle fed infants, 63.1 per cent had convulsions in infancy. In these groups, bottle feeding appeared to be a more important factor than difficult or instrumental delivery, as out of 20 instrumentally delivered babies, 10 were breast fed and 30 per cent of these had convulsions, while 80 per cent of the 10 bottle fed babies had convulsions. During food substitution in infancy, convulsive seizures sometimes occurred, and in these cases Spangler usually found some allergic hereditary and some other alergic manifestations as a cyclic diarrhea, digestive disturbance, hives, eczema. The rather frequent beneficial effect of a ketogenic diet in these cases is attributed by him to chance elimination of the offending substance rather than to the production of an acidosis. Where a definite history of allergy is present but the substance cannot be determined at the time, desensitization with a non-specific protein is often helpful. J. Klein has also reported several cases in which relief of the allergic condition also brought cessation of convulsive seizures. In one case, a child three years old, presenting hay fever and convulsive seizures, there was found sensitiveness to several types of cheese. Elimination of cheese from the diet resulted in relief of the hay fever and elimination of the convlusive seizures.

A. Souqui, differing from the above theories, regards epilepsy as a primary histologic and biologic condition of the nerve centers plus a toxic substance in the blood stream. Salmon considers epilepsy a disturbance of the sympathetic system causing the choroid plexus to secrete an excess of cerebrospinal fluid, thus increasing the intraventricular tension.

It is particularly important that the association of convulsive seizures with endocrine disorders be recognized. The pituitary, the thyroid, parathyroids, gonads, and adrenals may be important factors in the production of convulsions.

A number of cases of epilepsy associated with a pituitary syndrome has been reported by Cushing. Lowenstein has reported that tbout 30 per cent of epileptics gave evidence of some pituitary dyscrasia. Some showed evidence of adiposogenitalis, others evinced sexual over or under development, and often there was x-ray evidence of changes in the sella. The cases of epilpsy which show improvement or even complete cessation of attacks during pregnancy are interesting in that they give weight to the theory of pituitary influence over convulsive seizures. During pregnancy the secretory activity of the anterior lobe of the pituitary is increased and the vasoconstrictor response to the posterior lobe extract is also increased. Thus the effect of the pituitary on the centers in the diencephalon is increased, explaining its helpful effect on the frequency of the convulsions. The fact that there is sometimes a decrease in convulsions following oophorectomy may be explained on the basis that there is an increase in pituitary activity with a resulting increase in the pituitrin content of the cerebro-spinal fluid. Turner reports four cases having convulsive seizures, ranging from 12 to 28 years, who presented some evidence of pituitary dyscrasia as girdle obesity, dystrophia, adiposogenital syndrome and menstrual irregularities associated with the classical pituitary type of individual. All improved on pituitary therapy, as antuitrin, antuitrin-S and anterior and posterior pituitary substance. Experimentally hypophysectomy in animals is accompanied by the onset of convulsive seizures. These seizures in turn, according to Hoursny, may be controlled by pituitary implants. Altenburger and Stern have also found that the cerobrospinal fluid of epileptics contains a decreased amount of pituitrin.

Parathyroid tetany occurs as evidence of an increased irritability in both nerve and muscle tissue and is due to a lowered calcium balance. The blood calcium is decreased and there is clinical evidence also to indicate hypoparathyroidism. Administration of calcium plus diet and parathyroid gives improvement.

Hyperinsulinism is definitely associated with convulsive states. These cases improve promptly under increased carbohydrate feedings, high fat diet or injections of pituitrin. The adrenals also are associated with convulsive seizures, as in narcolepsy, myasthenia and Addison's disease, injection of adrenal cortex giving relief in these cases.

Although there are other etiological factors and other theories concerning the eiology of epilepsy, the above emphasize the necessity of a complete physical, neuropsychiatric and endocrinological examination of any patient complaining of convulsive seizures of any type. The diagnosis of idiopathic epilepsy on insufficient grounds has condemned many patients to a life of hopelessness —they become morose and hypochondriacal, a burden to themselves and to their families and friends.

THE OSCAR ALLEN TUMOR CLINIC
CHARITY HOSPITAL
NEW ORLEANS

The scientific meeting of September was called by Dr. James T. Nix, Director. The essayist was Dr. John Connell, who presented the following paper.

TRANSITIONAL CELL CARCINOMA

Among the various pathologic expressions that we frequently encounter is transitional cell carcinoma. Histologists in describing epithelial tumors have named them from what they believe to be their site of origin. Thus basal cell tumors are believed to arise from the small basal cells that are the mother or progenitor of the upper epithelial cells. Squamous cell tumors arise from epithelial tissue which commonly have as their outermost layer stratified squamous cells. They are recognized most readily by their tendency to form pearls and show cornification. Adeno or glandular carcinoma supposedly arises from epithelial cells that commonly have as their function secretory activity and are recognized by their glandular formative activities.

Now certain tumors that are readily recognizable as epithelial tumors yet do not show any of the specific characteristics of the layers already mentioned appear in various epithelial beds in the body. For many years they have been given names most of which were taken from the various layers of epithelium—thus spinocellular carcinoma, stratum granulosum carcinoma, and devious other confusing expressions that have been assigned to them at various times. All these expressions were meant to indicate that various individuals believed their origin to be from this particular cell layer in the epithelium.

A term has gradually crept into the literature and is mentioned by Martzloff[1], Cutler[2], McCarty[3] and many other more recent writers which is more inclusive and takes in all these epithelial tumors with no definite mature characteristics. It is a transitional cell carcinoma and from the previous indicatory remarks it is seen to include all the tumors arising from the epithelial structures between the basal and squamous layer of cells. For one to be sure of anything like this, however, he would have to have much knowledge as to the etiology, origin and biology of cancer in general.

The name transitional cell carcinoma is of value, however, because there are certain facts that we do know about this tumor. First, we recognize it in the microscope as a rather definite histologic picture. The sections show many small, round and polyhedral cells with relatively large hyperchromatic nuclei which occupy almost the entire cell. The cell membranes are vague and the cytoplasm, usually scanty in amount, stains poorly. The cells vary markedly in size and staining qualities, show numerous mitotic figures, and grow diffusely in cords and sheets to infiltrate the surrounding tissues. At times anaplasia is present to a most marked degree, so much so that the epithelial characteristics are almost lost and the tumor begins to resemble a sarcomatous growth. It is this type of tumor which has been frequently reported in the literature as carcinosarcoma and sarcoma of the cervix uteri.

These tumors may be found wherever epithelial tissue is present, but the most common and important source is the oral cavity and the cervix uteri. They include the largest proportion of tumors found in these areas which are such frequent sites of malignant growths. Grossly they have no special distinguishing characteristics except that the primary growth is frequently very small, and apparently insignificant. The actions of this tumor, whether in the mouth or uterus, are very similar. It grows rapidly and may metastasize to the regional lymph nodes early. A small lesion on the buccal mucosa may be noticed only after a diligent search for a cause of cervical lymph node enlargement has been made.

The clinical importance of recognizing this type of tumor becomes extremely pertinent when we learn more concerning its therapeusis. Years of experience have finally taught us the usual futility of surgical intervention. It only too frequently leads not to a cure but to a more rapid dissemination of the malignant cells throughout the body. This type of tumor on the other hand is very radio-sensitive. Its very anaplastic and embryonic characters give us this information from the histologic standpoint. Proper radium and deep Roentgen therapy, the amounts of which are beyond the scope of this paper, will inevitably result in a rapid dissolution of the tumor without sacrificing even the tumor bed. Such phenomena are the rule and not the exception in our cervical and mouth transitional cell carcinoma when seen in the early stages of the disease.

CONCLUSION

In conclusion let me repeat—there are certain tumors most commonly met with in the oral cavity and cervix uteri which we term transitional cell carcinoma, which have typical histologic characteristics, are usually very anaplastic, which are readily amenable to radium and roentgen therapy if discovered early.

REFERENCES

1. Martzloff, John Hop. Bull., 40:171, 1927.
2. Cutler, Arch. Surg., 18:2303, 1929.
3. McCarty, Am. Jour. Cancer, 20:403, 1934.

VICKSBURG SANITARIUM STAFF MEETING

A regular monthly meeting of the staff of the Vicksburg Sanitarium was held, Monday, September 9, at 6:30 P. M., with fourteen members of the staff and two guests present. After a supper, the meeting was called to order by the president, Dr. R. A. Street, Jr.

Reports from the record department and analysis of the work of the hospital for the month of August were presented.

Dr. F. Michael Smith, director, Warren County Health Department, presented a report of vital statistics for the month.

The following special case reports were presented:

1. Chronic Urinary Infection Arising from Ureter Containing Calculus, Residual to Former Nephrectomy; Ureterectomy.—Dr. A. Street.

2. Cholelithiasis with Cholecystectomy Complicated by Embolic Pneumonia; Recovery.—Dr. J. A. K. Birchett, Jr.

3. Cholelithiasis.—Dr. R. A. Street, Jr.

Selected radiographic studies were shown and discussed as follows: Osteomyelitis of astragalus; tuberculosis of hip joint; osteoarthritis of lumbosacral joint; pulmonary tuberculosis (3 cases); aneurysm of thoracic aorta; cholelithiasis; cardiospasm; carcinoma of descending colon; ureteral calculus; twin pregnancy.

Three-minute reports of the literature of the month were given as follows:

1. Dr. A. Street—Ober Method of the Treatment of Sciatica.

2. Dr. L. S. Lippincott—High Blood Urea Nitrogen Not Due to Chronic Nephritis.

The next meeting of the staff will be held Thursday, October 10.

Leon S. Lippincott,
Secretary.

Abstract: Cholelithiasis.—Dr. R. A. Street, Jr.

Patient.—White, female, age 40; married; admitted to hospital August 19, 1935.

Chief Complaint.—Pain under right scapula; gaseous distention after meals; nausea for past three days; has vomited several times.

Present Complaint.—For past four years has had attacks of "indigestion" after heavy meals, much gaseous distention, nausea, pain under right scapula, and occasional vomiting. Never jaundiced and never has had clay colored stools. Bowels sluggish except when purgative taken. No fever, cough, sweat or loss of weight. Appetite good except during acute attacks. Occasional dull headache, usually with indigestion.

Past History.—Seven children living and well, two dead. No miscarriages. Menstruation every three weeks for past two years and flow rather profuse with some pain first two days of flow. Mild leukorrhea at times. Venereal disease denied.

Physical Examination.—Well developed and well nourished white woman, apparently in considerable pain. No jaundice noted. Some tenderness in upper right quadrant of abdomen but no rigidity or masses. Numerous carious teeth, some broken; gums red with dirty grey film around teeth margins. Tongue heavily coated and breath foul; pulse 90, of fair quality; temperature 99°F.; blood pressure 110/70. Pelvic floor slightly relaxed; large hard cervix with old bilateral laceration and small erosions on anterior and posterior lips. Fundus of uterus forward and free but slightly enlarged. Thick muco-purulent discharge from cervical canal. Adnexa negative. Laboratory findings essentially negative.

Procedure.—Intravenous glucose solution and calcium gluconate daily for four days. Operation on fourth day showed a chronically diseased gallbladder with numerous stones. The cystic duct was ligated and gallbladder removed. No stones felt along the common duct and this was not further explored. Four Penrose drains were placed along the gallbladder fossa and wound was closed in usual fashion.

Convalescence was rather stormy for the first four days postoperative. Because there was complaint of weakness and chilliness several times and a rise of temperature at two successive forty-eight hour intervals, twenty grains of quinine were given intramuscularly for two days and five grains of quinine were given by mouth three times a day. Plasmodia could not be demonstrated in the blood. Improvement was then rapid and nourishment was taken from the fifth day on. Discharged on the seventeenth postoperative day in excellent condition. Wound had healed nicely.

Pathological report showed chronic cholecystitis with 19 calculi, varying from pinhead to the size of a pea.

Abstract.—Chronic Urinary Infection Arising from Calculus-Bearing Ureter, Residual to Former Nephrectomy.—Dr. A. Street.

Patient.—White, male, age 44; married, no children; merchant; admitted to Vicksburg Sanitarium August 20, 1935.

Chief Complaint.—Urinary frequency; some tenesmus; abdominal discomfort, left lower quadrant. Duration two months.

Present Illness.—First seen one year ago with complaint of burning and frequent urination and pain along course of right ureter. Cystoscopic examination at that time showed right kidney and ureter normal. Bladder urine contained pus. Prostate not enlarged; prostatic fluid contained pus. Left kidney had been removed; left ureter con-

tained stone. Treated by prostatic massage and instillation of silver nitrate solution, and symptoms improved.

Previous Illness.—Gonorrhea 24 years ago; no urethral discharge since. No syphilis. Left kidney removed three years ago because of acute suppurative disease.

Physical Examination.—Well developed, stout patient not acutely ill. Temperature 98.8°F.; pulse 76; respiration 17; blood pressure 126/80. General examination shows nothing remarkable. There is a left nephrectomy scar. First and second glasses of urine very turbid. Rectal examination shows prostate to be of normal size and consistency.

Cystoscopic Examination.—Cystoscope easily introduced; bladder tolerance good. Bladder mucosa appears normal. There appears to be pus oozing from left ureter. Right ureter easily catheterized, 31 cm. No residual urine in right pelvis and there was normal flow of clear urine. Catheter passed into left ureter and slight obstruction 3 cm. up. Another catheter was passed through the left orifice alongside the first one, and after manipulating the two, one of them passed the obstruction and was passed up the ureter for 30 cm. Roentgenograms were made, first with only the catheters in place, then left ureterogram. Former showed a calculus 3/8 inch long at 3 or 4 cm. from the bladder. The latter showed in addition to the calculus the ureter only moderately enlarged, extending to the site of what was the kidney pelvis before nephrectomy. Bladder neck and posterior urethra appeared normal. Prostatic fluid found to be free of pus.

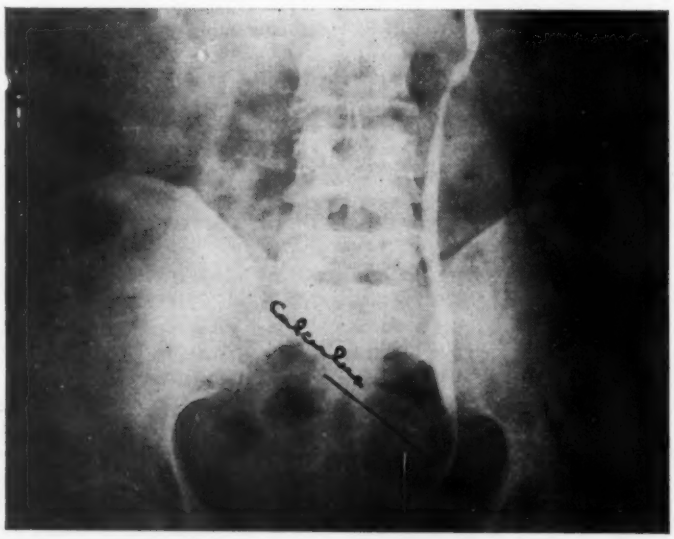
Clinical Laboratory.—Blood Wassermann (three antigens), Kline and Young, Kahn, and Eagle flocculation tests negative. Blood counts normal. Bladder urine (catheterized): cloudy, alkaline, slightest possible trace of albumin, no sugar; pus++, no blood.

Urine from right ureter: Slightly cloudy, slightly acid, trace of albumin; rare leukocytes; many fresh red blood cells. Stained preparations: Rare leukocytes (polymorphs), some Gram positive diplococci. Culture: Some Gram positive staphylococci (albus).

Blood urea nitrogen: 14.01 mg. per 100 cc.

Impression.—It was thought at first that the prostatic infection was the probable cause of the urinary symptoms. However, later observation showed the prostate free of pus, the bladder with a heavier infection, and discomfort in the region of left ureter instead of the right, with no evidence of trouble in the right kidney or ureter. It was, therefore, concluded that the left ureter with the calculus obstructing its lower portion was serving as a reservoir for the infection.

Operation.—August 22, 1935, gas ether anesthesia. A catheter was introduced into the left ureter and 2 cc. of 1 per cent aqueous solution of mercurochrome was injected. Left lumbar incision extending well down along course of ureter. Peritoneum easily deflected mesially exposing the ureter paraperitoneally. Upper end was first freed, catheter withdrawn through the urethra and then the ureter freed to a point below the calculus and close to the bladder where it was clamped, ligated,



Showing Calculus in Ureter

divided, and removed. Penrose drain and closure of wound to exit of the drain.

Course.—Convalescence uneventful for one week, then development of small area of pneumonia in right lower lung with temperature 103°F. Pneumonia promptly subsided and temperature was normal after the 14th day. Patient was discharged free of symptoms on September 11, twenty days after operation. At this time urine showed only 1 pus cell per high power field.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

OCTOBER 2 Clinico-Pathological Conference, Touro Infirmary, 11:15 A. M. to 12:15 P. M.

OCTOBER 2 Mercy Hospital Staff, 8 P. M.

OCTOBER 4 Pathological Conference, Hotel Dieu, 11 A. M. to 12 Noon.

OCTOBER 7 Eye, Ear, Nose and Throat Hospital Staff, 8 P. M.

OCTOBER 9 Touro Infirmary Staff, 8 P. M.

OCTOBER 11 Pathological Conference, Hotel Dieu, 11 A. M. to 12 Noon.

OCTOBER 11 French Hospital Staff, 8 P. M.

OCTOBER 14 ORLEANS PARISH MEDICAL SOCIETY, 8 P. M.

OCTOBER 15 Charity Hospital Medical Staff, 8 P. M.

OCTOBER 16 Clinico-Pathological Conference, Touro Infirmary, 11:15 A. M. to 12:15 P. M.

OCTOBER 16 Charity Hospital Surgical Staff, 8 P. M.

OCTOBER 17 Eye, Ear, Nose and Throat Hospital Staff, 8 P. M.

OCTOBER 17 New Orleans Hospital Council, Eye, Ear, Nose and Throat Hospital, 8 P. M.

OCTOBER 18 Pathological Conference, Hotel Dieu, 11 A. M. to 12 Noon.

OCTOBER 18 I. C. R. R. Hospital Staff, 12 Noon.

OCTOBER 21 Hotel Dieu Staff, 8 P. M.

October 22 Baptist Hospital Staff, 8 P. M.

OCTOBER 23 Clinico-Pathological Conference, Touro Infirmary, 11:15 A. M. to 12:15 P. M.

OCTOBER 25 Pathological Conference, Hotel Dieu, 11 A. M. to 12 Noon.

OCTOBER 28 ORLEANS PARISH MEDICAL SOCIETY, 8 P. M.

OCTOBER 30 Clinico-Pathological Conference, Touro Infirmary, 11:15 A. M. to 12:15 P. M.

During the months of July, August and September the Society was in vacation, therefore there was little activity in the Secretary's office.

The members are urged to report their new office addresses to the Secretary's office in the event they have moved during the last few months.

H. B. Alsobrook, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

AMERICAN MEDICAL DIRECTORY

After every Directory is published we receive a number of complaints from physicians who have not been listed as Members or Fellows of the American Medical Association. Some of these men have possibly lost appointments with industrial firms, insurance companies, railroads, etc., because they were not indicated as members. They may have been members and let their membership lapse or new men in the community who failed to join their local society in time to indicate this information in the Directory.

To eliminate such criticism, we are asking Secretaries of State Medical Societies and Editors of State Medical Journals to cooperate in notifying all delinquents and eligible applicants that a new Directory is going to be published. It would aid greatly if a notice were placed in your publication calling to the attention of your readers the importance of sending in their data promptly when requested and the keeping up of their membership in your Society.

It will probably be two years, or 1938, before another Directory will be issued.

Thanking you for your assistance in this matter, we are

Very truly yours,
American Medical Association.

THE COUNCIL ON PHYSICAL THERAPY

The Council of the American Medical Association on Physical Therapy have prepared a pamphlet entitled "Apparatus Accepted." This has to do with various types of physical equipment that physicians may employ in the treatment of disease, such as lamps, inhalators, diathermy apparatus, and metabolic testors. Copies of this may be secured from the American Medical Association.

AMERICAN MEDICAL ASSOCIATION RADIO PROGRAM

Beginning October 1st, every Tuesday at 4:00 P. M. a radio program of the American Medical Association will be broadcast over the N. B. C.

network. These programs might well be turned on the radio in doctors' offices when patients are waiting. Likewise, the doctors might inform patients that the radio programs will be heard at the time mentioned above.

The program is to be devoted to medical emergencies, the center of which is the doctor who is available day and night for the protection and promotion of his patients' health.

ST. TAMMANY PARISH

The St. Tammany Parish Medical Society met September 13, Southern Hotel, with the following members present: Drs. Frank Young, Carl Young, Lawrence Young, R. B. Paine, H. E. Gautreaux, H. D. Bulloch.

The following guest physicians were present: Dr. Dan S. Silverman, Dr. Manuel Garcia, Dr. Louis Ochs and Dr. C. E. Gorman, all out of New Orleans. Dr. J. T. Nix of New Orleans was expected to be present but was sick and could not be with us, much to the regret of the Society.

Before going into the scientific papers, Dr. Bulloch presented a very interesting clinical case that he had present. Mr. _____ who had received a severe stab wound in the chest, February 23, 1933, and who had been continuously under treatment of various surgeons in different hospitals ever since, and who was totally incapacitated and probably would be for some years to come.

Dr. Garcia was then called on for his paper, who chose as his subject, "The Role of the General Man in Cancer Control". Lantern slides were used to bring out the points of special interest in his lecture. The subject was very ably handled, making what he had to say and show us of great interest and very impressive.

Dr. Dan Silverman next addressed the Society, his subject being: "Bacillary and Amebic Dysentery." Dr. Silverman soon convinced his hearers that he was master of his subject. Dr. Silverman also used the lantern slide to bring out the high points of his discourse. Dr. Ochs and Dr. Gorman assisted Drs. Garcia and Silverman in handling the lantern slides.

Before adjourning, Dr. Frank Young made a motion to elect the visiting physicians to membership in our Society. Motion was put and unanimously carried. Refreshments, generously supplied by Dr. Frank Young, were enjoyed fully. Meeting adjourned, peace and harmony prevailing.

Dr. Carl Young, Pres.
Dr. H. D. Bulloch, Sec.

APPROACHING MEETINGS

The American Public Health Association will hold their annual convention in Milwaukee, October 7-10. Ten other closely related organizations will meet at the same time. They include such associations as the American Association of Industrial Physicians, Association of State Sanitary Engineers, Conference of State Laboratory Directors, and others. An extremely comprehensive and interesting program has been provided.

The Eighth Annual Graduate Fortnight of the New York Academy of Medicine will be held October 21 to November 2, 1935. The sessions will be devoted to diseases of the respiratory tract. The complete program of this meeting is in the office of the Journal, and is available for any one who may be interested in attending this conference.

The Mississippi Valley Medical Society will meet in Quincy, Illinois, October 2-4, 1935.

BRANCH SOCIETY OF AMERICAN ASSOCIATION FOR CANCER RESEARCH ORGANIZED

The first Branch Society of the American Association for Cancer Research to be organized in the South resulted here on August 13 when the Tumor Clinic staff of the Shreveport Charity Hospital met with other physicians and elected Dr. E. L. Sanderson, Supt. of Charity Hospital their President; Dr. W. R. Mathews, pathologist, Vice-President; and Dr. Harold G. F. Edwards, radium and x-ray therapist, Secretary-Treasurer.

The aim of this Society will be to assist the National Association, composed exclusively of physicians and scientists, in advancing research into the cancer field, whether by experimental, pathological, clinical, statistical means, or otherwise. The Society is expected to activate and concentrate interest in these widely removed centers where distance prevents participation in the regular meeting of the mother association.

The Shreveport Charity Hospital Branch Society will envelope the Arkansas-Louisiana-Texas area and draw its membership from the medical profession in this territory who are interested in the prevention, study and treatment of cancer. It is the intention of the Society to conduct special scientific programs relating to cancer and to have outstanding cancer specialsts to come before the Society frequently during the year and conduct special clinics on cancer.

The next meeting of the mother association will be held in the Mallory Institute of Pathology, Boston City Hospital, Boston, Mass., April 8, 1936. The meeting of the Shreveport Branch will be announced at a later date.

NEWS ITEMS

Dr. Robert A. Strong of New Orleans was a

guest speaker at the Southern Tuberculosis Conference and Sanatorium Association on Monday, September 16, at Houston, Texas.

Dr. J. H. Musser addressed the Michigan State Medical Association in Sault St. Marie, Michigan, on September 24.

Medical Director H. E. Hasseltine has been relieved from duty at San Francisco and assigned to duty at Carville, Louisiana, in charge of the Leprosarium.

Dr. O. E. Denney, who has been in charge of this hospital for many years, is to report for duty at Ellis Island, New York, about November 1st.

Surgeon P. J. Gorman has been assigned to duty in New Orleans Quarantine Station, Algiers, La.

Among the Diplomates qualified by the American Board of Psychiatry and Neurology at their meeting in Philadelphia were:

Dr. Dean Hume Duncan in neurology, Shreveport, La.

Dr. Walter Jos. Otis in psychiatry and neurology, New Orleans, La.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of Census, reports that for the week ending August 17 there were in the city of New Orleans 140 deaths, divided 83 white and 57 colored. The death rate for the whole group was 15.2, for the white 12.7 and for the colored 21.3. The infant mortality rate for this week was 89, divided about equally between the two races. For the following week there was a slight increase in the total number of deaths, there being 147 with a death rate of 15.9. There were 89 deaths in the white population, the rate being 13.6 and 58 negroes, with a rate of 21.7. The infant mortality was 107. The following week there was some slight drop, there being 12 less deaths reported than in the previous week. This week there was a corresponding decrease in the death rate, the rate being 14.6. Of the two races, the white had a rate 10.4 as the result of 68 deaths and the colored a rate of 25.0 with 67 deaths. Mortality rate among infants this week was 95, with a perfectly astounding variation between the two races, the white rate being 19 while the infant mortality rate of the negroes was 221. For the week ending September 7, there were fewer deaths in the city than had been reported in a long time. There were 116 deaths, 80 white and 36 colored. The death rate for the week as a whole was 12.6, for the white population 12.2 and for the colored 13.5. The infant mortality rate was 65, the colored rate being approximately twice as high as the white.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, Epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the State of Louisiana, which contain the following summarized information: For the week ending August 17, the thirty-third week of the year there were reported in double figures the following diseases: 228 cases of malaria, 42 of pulmonary tuberculosis, 27 pneumonia, 23 cancer, 22 syphilis, 20 each typhoid fever and gonorrhea, 13 each influenza and diphtheria, 11 each of hookworm disease and septicemia. Of the typhoid fever cases Orleans Parish led with 6 followed by DeSoto with 4. Union Parish reported 6 cases of scarlet fever. Four cases of poliomyelitis were reported throughout the state from 4 different parishes. Two cases of typhus fever were reported in Orleans Parish. The thirty-fourth week of the year ending August 24, there were reported 223 cases of malaria, 42 of pneumonia, 31 of pulmonary tuberculosis, 28 each of syphilis and cancer, 22 each of gonorrhea and typhoid fever, 19 of influenza, 12 of diphtheria and 11 of measles. During this week there were reported six cases of poliomyelitis, 3 from Orleans Parish, 2 from Iberia Parish and 1 from Livingston Parish. For the week ending August 31 the number of cases of malaria increased to 265. There were reported also 91 cases of syphilis, 61 of gonorrhea, 38 of pneumonia, 32 of pulmonary tuberculosis, 29 of cancer, 24 of diphtheria, 20 of influenza, 18 of typhoid fever, and 10 of scarlet fever. During this week there was reported 1 case of poliomyelitis from Rapides Parish. The typhoid fever cases were reported in parishes all over the state and not one listed more than 2 cases. In the thirty-sixth week of the year which ended September 7, there was a rather slight drop in the number of cases of malaria, there being 169. From the report the week seemed to be a rather healthy week. The other diseases reported were comparatively few in number, being tabulated 35 cases of pneumonia, 31 of cancer, 29 of pulmonary tuberculosis, 25 of typhoid fever, 23 of diphtheria, 17 of influenza, and 10 of syphilis. Two cases of poliomyelitis were reported this week. Of the typhoid fever cases St. Landry Parish reported 8 and Tensas 6. For the last week for which we have reports, ending September 7, malaria again leads all reportable diseases, there being 220 cases in this week. Other diseases reported in double figures are 58 cases of pneumonia, 30 of cancer, 22 of pulmonary tuberculosis, 19 each of gonorrhea and influenza, 17 of typhoid fever, 14 of syphilis, 10 of diphtheria. One case of poliomyelitis was reported from Orleans Parish. Acadia Parish was the only one to have more than 2 cases of typhoid fever reported in this week. It should be noted that in five weeks, which comprise the above reports, malaria was by far the most frequently reported disease. This is a re-

flection on us as physicians, because of all the transmissible diseases malaria control depends largely upon the physician's individual attention.

DIED

Weiss, Carl Austin, Jr., Baton Rouge. Born on December 18, 1905, in Baton Rouge; graduated from Tulane University School of Medicine in 1927. Dr. Weiss interned at Touro Infirmary, the American Hospital in Paris, and the Bellevue Hospital, New York, with graduate study in otorhinolaryngology in Vienna. He was a member of the East Baton Rouge Parish Medical Society, Sixth District Medical Society, and the Louisiana State Medical Society. He died in Baton Rouge on September 8, 1935.

On August 4, 1935, Dr. Benjamin Gilbeau died at his plantation home, on the outskirts of Grand Coteau, Louisiana. He was the son of Valerie Gilbeau and Corinne Guidry, descendants of pioneer Acadian settlers of that section of Louisiana. Dr. Guilbeau was born September 3, 1860, and received his early education at St. Charles College at Grand Coteau, and later, at Sewanee University in Tennessee. He then matriculated at Tulane University and graduated from that Institution in 1885 in the Medical Department. Dr. Guilbeau was in active practice until his last illness, his professional activities covering a period of over fifty years. In addition to the practice of his profession, he was deeply interested and highly successful in farming operations, and the raising of blooded live stock.

WOMAN'S AUXILIARY NEWS

Officers of Louisiana State Medical Society Auxiliary:

Mrs. Hermann B. Gessner, President, New Orleans, La.

Mrs. James Byron Vaughn, Pres.-Elect, Monroe.

Mrs. Samuel B. Kreeger, 1st. Vice-Pres., Lake Charles.

Mrs. L. E. Shirley, 2nd Vice-Pres., Jennings.

Mrs. D. T. Milan, 3rd Vice-Pres., Monroe.

Mrs. Harry R. Marlatt, 4th Vice-Pres., Homer.

Mrs. Jos. E. Heard, Treasurer, Shreveport.

Mrs. James W. Warren, Rec. Sec'y., New Orleans.

Mrs. Leonhard E. Devron, Corr. Sec'y., New Orleans.

Mrs. C. E. Rew, Parliamentarian, Shreveport.

CLAIBORNE PARISH

The Woman's Auxiliary of Claiborne Parish held their last meeting of 1934-35 on July 15 at the home of the President, Mrs. M. J. Rivenbark, Haynesville, La. A business meeting was held after which Mrs. Arthur A. Herold and Mrs. Joseph Heard of Shreveport were introduced, Mrs. Herold being the guest-speaker for the occasion. She gave a very splendid report of the A. M. A. Convention held in Atlantic City June 11th-14th, and also advised us along the lines our newly organized society should be conducted. Our next meeting is scheduled for September to be held in Homer.

Mrs. H. R. Marlatt, Secretary.

Sept. 20th, 1935.

The following invitation to the Southern Medical Association meeting is extended through Mrs. Lee W. Roe, Chairman of Press and Publicity.

"The Woman's Auxiliary to the Southern Medical Association will meet in St. Louis, Mo., November 20th and 21st. All women attending the Southern Medical Association meeting are invited to the Auxiliary meetings.

Each State Auxiliary is entitled to send its President, two delegates, and two alternates to form, with the Executive Board, the voting body.

Members and eligible members of County Auxiliaries in these states, are very cordially invited to attend the luncheon meeting Wednesday, November 20th at 12:30 P. M., and the annual meeting, November 21st at 9:30 A. M. The business sessions are to be conducted on a schedule, allowing time for social arrangements. For the development of the Auxiliary, it is important for members and eligible women to be present, because the foundation of an organization rests on its membership and future leaderships come from it. So make your plans now to go to this convention. Program data will be sent you very soon."

Below is a letter received from William F. Snow, General Director of The American Social Hygiene Association which embraces some very interesting data:

"The American Social Hygiene Association is facing the greatest crisis it has confronted since the beginning of the World War, when as all members of the Association know, the first really great opportunity to advance social hygiene as a national movement was seized and fully developed with contributions from the Association's friends and supporters. Now, through the Social Security Act just signed by the President, we have another great opportunity to assist Federal and state health agencies to prevent syphilis and other so-called venereal diseases, and promote the environmental safeguards which are so important. Whether the Association will be able to grasp this new and in some ways greater opportunity will depend in a large degree upon you and other members.

The scientific means and methods for the con-

quest of syphilis are quite well understood. Under the Security Act a long step can be taken toward its eradication if all governmental health bodies adopt and carry into action sound and tested plans for dealing with syphilis as a communicable disease. Congenital syphilis, which now causes blindness, deformity, insanity, or other disasters and even death in 2 per cent or more of children born in America, can be prevented by quite simple practical measures. Early syphilis can be rendered non-infectious, general paralysis can be prevented and progress can also be made in the control of gonorrhea by the application of modern methods.

In order to assist governmental health agencies to give social hygiene an adequate place in plans for expansion under the new Federal Act, the Association's staff should be fully available to all health officers and other officials for advisory and executive services and to assist in training new personnel in social hygiene work. But it will be impossible for the Association to grasp these opportunities and render the services required unless funds are supplied to maintain its field activities in all parts of the country.

It is, therefore, to you who are members of the Association and who understand the problems and difficulties of the work that I am instructed by our Board to appeal for aid in meeting the present demands, and I do so with full assurance that you will do your utmost. Much depends upon the help of each member.

Only once before have we made a similar appeal in a crisis. This was during the great Mississippi flood. Our members responded with thousands of dollars which enabled us to carry on the emergency work asked of us by the state and local authorities. Both the demands and the opportunity are greater now. We need a minimum of $20,000 more this year."

Recommended reading for the month:—

Worlds Apart	Princess Marthe Bibesco
Vein of Iron	Ellen Glasgow
The Stars Look Down	A. J. Cronin
Frost at Morning	Beatrice Kean Seymour
South	Frederick Wight
All Things are Possible	Lewis Browne
Man Of Aran	Pat Mullen
These Elder Rebels	Helen Abbott Beals
North to the Orient	Anne Morrow Lindbergh
Four Winds	Roland Pertwee
We, the Accused	Ernest Raymond
The Oxen of the Sun	Irving Bacheller
One-Two-Three-Four	James Hutchison
God Shakes Creation	David Cohn
The Wind Blew West	Edwin Lanham

When the tang of Fall is in the air, what is more embracing than an evening at home in your favorite comfy chair with a good book? The above books have been recommended as very entertaining. Hope you will enjoy them.

Mrs. George D. Feldner, Publicity Chairman,
3814 Louisiana Ave. Parkway

Gastonia, N. C.,
September 22, 1935.

To the Officers and Members,
Louisiana State Medical Society,
Gentlemen:

I wish to express my sincere thanks for the beautiful chest of silver that was given to me as a parting gift by the Louisiana State Medical Society. This gift is appreciated more than I can express, as I shall have it always to remind me of the many happy years that I spent with the State Society.

I deeply regretted having to resign my position, as I have always enjoyed my work and association with the doctors of Louisiana so much. I hope that I may be able to attend one of the annual meetings soon, and to see you all again.

Sincerely,
Mary Crossen Kagy.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

MEMBERSHIP

Below are given some figures on membership in the Mississippi State Medical Association as compared with the number of eligible physicians of the state. The membership figures are taken from the Transactions recently distributed; the figures for eligible physicians are taken from a roster of Mississippi physicians compiled by the Mississippi State Board of Health early in this year. There have been, no doubt, some changes since the lists were made up, but it is probable the percentages are still essentially correct.

The Jefferson County and Wilkinson County Societies head the list with 100 per cent membership. The Clarke-Wayne Counties Medical Society is at the bottom with only five members out of 17 doctors in the two counties, or 29.4 per cent. There are 1,352 presumably eligible doctors in Mississippi and 904 of these are members of medical societies—66.9 per cent.

It has been said by those who favor the single county societies that more doctors are reached and become members of these societies than is the case with the multiple county societies, and the present membership figures bear this out. There are listed 13 single county societies with

a membership of 150 or 80.2 per cent as against 11 multiple county societies with a membership of 754 and a percentage of 64.7.

There are numerous points to be considered in deciding which of the two set-ups is more effective. Organized medicine should attract all doctors with medical degrees and it is presumed that most doctors registered by the state are eligible to membership in the medical societies of the state. In numbers and unity there is strength. Actually it is known that there are a considerable number of registered physicians who are not any longer in active practice and whose interests are in other lines of endeavor. As an example, in one county with 41 registered physicians, there are 27 members of the medical society or approximately 66 per cent. Of the others, four perhaps should be members and nine have other greater interests or have wholly or partially retired from practice. The best possible membership attainable is 76 per cent.

On the other hand, there are a few counties in which society membership is a tradition and all physicians zealously retain their membership until death, whether in practice or not.

It would be interesting to know the attendance percentages of the various societies. Membership on paper does not mean much if a man never attends a meeting of his society. In these days, doctors like many others expect something for their money. Membership dues may not be excessive, especially when compared with dues to medical societies in some other parts of the country, but they mean paying out money usually at a time when taxes and other obligations are due.

It is not difficult to understand why a doctor may feel that society membership is not worth while when his society does not meet at all or only meets at rare intervals or in case the society meets at a great distance from his home, perhaps necessitating a whole day or part of the night away from his practice. If the program is given over to specialists who tell him about conditions he rarely or never sees and suggest that should he see such a case, it should be referred, he may feel that he is wasting his time.

It is probable that the average doctor will be more interested in a program put on by someone who is working along the lines that he himself follows from day to day, if he is asked to discuss himself cases that he himself sees, if he can feel that he is in an environment where he is a factor.

However, it is not easy to see how a single county society of two or four or five members can be really effective.

There is probably a happy medium. Some of our societies may be too small. Some may be too large. Some programs may be devoted too much to out of town or out of state specialists. Some programs may give too little thought to the bigger accomplishments of medicine. Some societies may not meet often enough to allow their members opportunity for discussion of every day problems. It is believed by some at least that the doctors of Mississippi would be more interested in organized medicine if they could have an opportunity to get together with their fellows at least once a month in places accessible and if programs could be arranged to satisfy the needs of the average doctor.

The Mississippi State Medical Association should have more members. The component societies, whether large or small must attract the men of their jurisdictions. It can be done.

Let's discuss it.

MEMBERSHIP BY SOCIETIES

No.	Society	Members	Eligible Doctors	Per Cent Members
1.	Jefferson County	6	6	100.0
2.	Wilkinson County	6	6	100.0
3.	Harrison County	44	48	91.7
4.	Jackson County	11	12	91.7
5.	Pike County	24	27	88.9
6.	Claiborne County	6	7	85.7
7.	Tate County	10	12	83.3
8.	Northeast Mississippi, 13 Counties	148	193	76.7
9.	Adams County	18	24	75.0
10.	East Mississippi	72	98	73.5
11.	Clarksdale and Six Counties	56	80	70.0
12.	De Soto County	8	12	66.7
13.	North Mississippi	56	86	65.1
14.	Delta	102	158	64.5
15.	Issaquena-Sharkey-Warren Counties	36	56	64.3
16.	Tri-County	29	46	63.0
17.	South Mississippi	83	140	59.3
18.	Central	122	206	59.2
19.	Franklin County	4	7	57.1
20.	Hancock County	6	11	54.5
21.	Winona District	45	85	52.9
22.	Amite County	5	10	50.0
23.	Stone County	2	5	40.0
24.	Clarke-Wayne	5	17	29.4
	TOTALS	904	1,352	66.9

SINGLE COUNTY SOCIETIES

No.	Society	Members	Eligible Doctors	Per Cent Members
1.	Adams	18	24	75.0
2.	Amite	5	10	50.0

3.	Claiborne	6	7	85.7
4.	De Soto	8	12	66.7
5.	Franklin	4	7	57.1
6.	Hancock	6	11	54.5
7.	Harrison	44	48	91.7
8.	Jackson	11	12	91.7
9.	Jefferson	6	6	100.0
19.	Pike	24	27	88.9
11.	Stone	2	5	40.0
12.	Tate	10	12	83.3
13.	Wilkinson	6	6	100.0
	TOTALS	150	187	80.2

MULTIPLE COUNTY SOCIETIES

No.	Society	Members	Eligible Doctors	Per Cent Members
1.	Central	122	206	59.2
2.	Clarke-Wayne	5	17	29.4
3.	Clarksdale, and Six Counties	56	80	70.0
4.	Delta	102	158	64.5
5.	East Mississippi	72	98	73.5
6.	Issaquena-Sharkey-Warren Counties	36	56	64.3
7.	North Mississippi	56	86	65.1
8.	Northeast Mississippi, 13 Counties	148	193	76.7
9.	South Mississippi	83	140	57.1
10.	Tri-County	29	46	63.0
11.	Winona District	45	85	52.9
	TOTALS	754	1,165	64.7

MEMBERSHIP BY DISTRICTS

No.	District	Councilor	Members	Eligible Doctors	Per Cent Members
1.	Ninth	D. J. Williams	63	76	88.1
2.	Third	R. B. Caldwell	148	193	76.7
3.	Eighth	W. H. Frizell	92	126	70.2
4.	Sixth	H. Lowry Rush	74	109	67.9
5.	Second	L. L. Minor	74	110	67.3
6.	First	J. W. Lucas	158	238	66.4
7.	Fifth	W. H. Watson	164	269	61.0
8.	Seventh	Joe E. Green	86	146	56.8
9.	Fourth	T. J. Brown	45	85	52.9
	TOTALS		904	1,352	66.9

DIRECTORY AND CALENDAR MEDICAL SOCIETIES

(Information is not complete. Secretaries of societies are urged to send in full data so that it may be known when the societies of the state meet and the names of the officers directing their activities this year).

Adams County Medical Society: E. E. Benoist, Natchez, president; W. K. Stowers, Natchez, secretary. Meets third Tuesday each month, Natchez, 7:30 P. M.

Amite County Medical Society: D. H. Thornhill, Crosby, secretary.

Central Medical Society: W. B. Dobson, Jackson, president; L. W. Long, Jackson, secretary. Meets first Tuesday each month, Robert E. Lee Hotel Roof, Jackson, 6:30 P. M.

Claiborne County Medical Society: E. P. Jones, Hermanville, president; G. W. Acker, Port Gibson, secretary.

Clarksdale and Six Counties Medical Society: J. L. Nichols, Alligator, president; N. C. Knight, Clarksdale, secretary. Meets fourth Wednesday of March and second Wednesday of November, Elks Club, Clarksdale, 2 P. M.

Clarke-Wayne Counties Medical Society: W. P. Gray, Waynesboro, president; Albert Hand, Shubuta, secretary.

Delta Medical Society: P. G. Gamble, Greenville, president; F. M. Acree, Greenville, secretary. Meets second Wednesday of April and October, rotates through five counties, 2 P. M. Next meeting, Moorhead, October 9.

De Soto County Medical Society: A. J. Weissinger, Hernando, president; L. L. Minor, Route 4, Memphis, secretary.

East Mississippi Medical Society: H. L. Arnold, Meridian, president; L. V. Rush, Meridian, secretary.

Franklin County Medical Society: L. Costley, Meadville, secretary.

Hancock County Medical Society: A. P. Smith, Bay St. Louis, secretary.

Harrison County Medical Society: H. K. Rouse, Lyman, secretary.

Issaquena-Sharkey-Warren Counties Medical Society: F. Michael Smith, Vicksburg, president; Leon S. Lippincott, Vicksburg, secretary. Meets second Tuesday each month, Elks Club, Vicksburg, 7:00 P. M.

Jackson County Medical Society: J. N. Lockhard, Pascagoula, president; R. G. Lander, Pascagoula, secretary. Meets second Thursday of March, June, September and December, Jackson County Hospital, Pascagoula, 7:00 P. M.

Jefferson County Medical Society: W. T. Harper, Fayette, secretary.

North Mississippi Medical Society: W. W. Phillips, Oxford, president; A. H. Little, Oxford, secretary. Next meeting October 18, Graduate Building, University of Mississippi, Oxford, 2:00 P. M.

Northeast Mississippi Thirteen Counties Medical Society: S. R. Deanes, West Point, president; A. J. Stacy, Tupelo, secretary.

Pike County Medical Society: H. L. Bauer, Mc-

Comb, president; Elise Rutledge, McComb, secretary. Meets first Thursday each month, McComb, 6:30 P. M.

South Mississippi Medical Society: J. Gould Gardner, Columbia, president; F. T. Bower, Hattiesburg, secretary.

Stone County Medical Society: Earl W. Green, Wiggins, secretary. Meets with Harrison-Stone-Hancock Counties Medical Society.

Tate County Medical Society: W. D. Smith, Senatobia, president; J. Sidney Eason, Coldwater, secretary. Meets second Wednesday each month, Senatobia.

Tri-County Medical Society: H. R. Fairfax, Brookhaven, president; R. B. Zeller, Hazlehurst, secretary. Meets second Tuesday of March, Copiah-Lincoln Junior College, Wesson; June, Walthall Hotel, Tylertown; September, Riverside Hotel, Monticello; December, Whitworth College, Brookhaven; 12:30 P. M.

Wilkinson County Medical Society; E. M. Butler, Centreville, secretary.

Winona District Medical Society: P. B. Brumby, Lexington, secretary.

ANNUAL ORATION

Dr. Morris Fishbein will deliver the Annual Oration at Greenville next May. I regard Dr. Fishbein as the outstanding medical orator in the country.

T. M. Dye,
Secretary.

MISSISSIPPI HOSPITALS

CALENDAR OF STAFF MEETINGS

Anderson Infirmary: Second Friday, each month, 6:00 P. M.

Biloxi Hospital: First Firday, each month, 7:30 P. M.

Clarksdale Hospital: Second Wednesday, each month, 1:30 P. M.

George C. Hixon Memorial Hospital: First Monday, each month, 7:30 P. M.

Jackson County Hospital: Second Thursday, each month except July and August, 7:00 P. M.

Meridian Sanitarium: Second Thursday, each month, 6:30 P. M.

Mississippi Baptist Hospital: Third Tuesday, each month, 6:30 P. M.

Northeast Mississippi Hospital: First Monday, each month, 7:30 P. M.

U. S. Veterans Hospital, Gulfport: Every Monday, Tuesday, Wednesday and Thursday, 10:45 A. M.

Vicksburg Infirmary: First Wednesday, each month, 7:00 P. M.

Vicksburg Sanitarium: Tenth or week of the tenth, each month, 6:30 P. M.

Winona Infirmary: First Thursday, each month, 7:30 P. M.

MISSISSIPPI STATE BOARD OF HEALTH

During the past few weeks the following counties not having full-time health departments have made appropriations for full-time nursing services to be carried on under the supervision of the county health officers: Marshall, Tippah, Quitman, Tallahatchie, Attala, Oktibbeha, Noxubee, Madison, Newton, Rankin, Claiborne, Simpson, Smith, Covington, Wayne, and George. The program will be educational in nature.

Felix J. Underwood, Executive Officer,
Jackson.

ADAMS COUNUTY MEDICAL SOCIETY

The regular monthly meeting of the Adams County Medical Society was held on August 20 with eight members present.

Dr. J. S. Ullman read a paper on "Menstruation and the Hormones," which was discussed by members present.

Dr. R. D. Sessions gave a description of work observed during a recent visit to the Cleveland Clinic Hospital.

W. K. Stowers, Secretary,
Natchez.

AMITE COUNTY MEDICAL SOCIETY

The Amite County Medical Society has been organized and a charter was granted at the past state medical meeting. We intend to take up our local problems chiefly. We also plan to meet in conjunction with the Wilkinson County Society at intervals and import a stimulating speaker for the occasion.

Our chief common medical problem in this section, along the Homochitto river, is malaria. The great trouble is getting patients to continue quinine sufficiently long enough to effect a cure. Atabrine has not been so successful in this section as a great majority of our cases are chronic with relapses, and although atabrine does check symptoms, in this type of case it is not lasting and has to be followed with quinine and arsenic therapy. We feel at times toward malaria as did Osler toward syphilis—"that it may simulate anything."

Our oldest member, Dr. W. R. Brumfield of Gloster, has shown that the "DOCTOR" still has a place in the minds of the people as a man of judgment outside of the purely medical things as he won the race in the first primary for state representative; winning over five opponents, three of whom were lawyers.

D. H. Thornhill, Secretary,
Crosby

CENTRAL MEDICAL SOCIETY

September meeting Robert E. Lee Hotel Roof, Tuesday, Sept. 3, 1935 with supper at 6:30 P. M.

Honoring the entrance of Leake County into the Society.

Physicians of Leake County: J. M. Barnett, F. L. Brantley, I. A. Chadwick, J. C. Dodson, C. W. Folsom, W. D. Franklin, J. M. Golden, W. A. Gowan, J. Van Horn, W. S. Martin, J. S. McNeal, H. H. Puryear, P. B. Russell, J. J. Sovell, A. L. Thaggard, B. E. Vowell, B. R. Wood, B. R. Wilson, K. P. Wood.

I am sure most of you will agree that from June until September is a long time between meetings. Makes us all appreciate the good fellowship of each other more. Let's have a big turn out and greet the boys from Leake County with a big crowd. We would like for them to help us out with the October program. We have some new doctors in town—be sure that they are invited to the meeting.

Program:

1. Case Report: "Removal of Senile Cataract with Interesting Findings," R. E. Anderson. Discussion: A. G. Wilde and M. L. Batson.
2. Case Report: "Compound Fracture of Tibia," F. H. Hagaman. Discussion: T. H. Blake and L. W. Long.
3. Paper: "Incidence of Syphilis in Apparently Healthy Adult Applicants for Positions as Food Handlers," H. C. Ricks. Discussion: B. N. Walker and H. R. Hays.

A meeting of program committee was held in Dr. Adkin's office at 1:00 o'clock, Monday, September 2, 1935.

L. W. Long, Secretary,
Jackson.

COAHOMA COUNTY MEDICAL SOCIETY

The Coahoma County Medical Society and the Clarksdale Hospital Staff met in its regular monthly meeting at the Clarksdale Hospital, Aug. 14, 1:30 P. M. The meeting was called to order by the president, Dr. W. S. Slaughter. The secretary then called the roll and read the minutes of the previous meeting, as directed by the president, the minutes being adopted as read.

Committee reports being the next order of business, Dr. E. LeRoy Wilkins, chairman of the committee to formulate policies regarding use of charity wards in the Clarksdale Hospital, reported as follows:

We, your committee appointed to make recommendations with reference to charity patients, and their using the rooms maintained by the county and city, beg leave to report as follows:

It shall be necessary in order to obtain the use of the rooms maintained by the county and City of Clarksdale, at the Clarksdale Hospital, for the patient to present a statement, signed by two reputable citizens, that he and his family are not able to pay for hospitalization, and this must be signed, also, by a member of the Board of Supervisors, if in the county outside the city, or by one of the three Commissioners if residing in the city.

This shall be evidence sufficient for the admission by the superintendent of any patient.

The above does not apply to "extras", operating room, x-ray, etc., but these expenses must be arranged for by the patient.

It shall be considered ethical, and permissable, for any doctor to accept a fee for caring for patients that occupy the "charity rooms", provided that same shall not come from the patient, or members of his family, but from some charitable organization, welfare agency, or the N. R. A.

Should the doctor be able at some future time to collect monies from the patient or his family for the services so rendered, it shall be his duty to first see that the hospital shall have been remunerated, then the remainder he may retain for his own use, to apply on account for services rendered.

J. L. Levy
W. H. Brandon
E. LeRoy Wilkins
Committee

A motion was then made that the Society adopt this report in full. Motion seconded and carried unanimously. Dr. E. LeRoy Wilkins made a motion that these recommendations be forwarded to the president of the Board of Directors of the Clarksdale Hospital with the request that if the recommendations are adopted by the Board of Directors, a copy of same be sent to every white physician in Coahoma County. Motion seconded by J. L. Levy and passed unanimously.

Under the heading of new business the president appointed the same relations committee to serve another term, namely, T. G. Hughes, chairman, I. P. Carr, D. H. Griffin.

Dr. J. L. Levy made a motion that the secretary write Dr. Maxwell E. Lapham a letter of appreciation on behalf of the Society for the postgraduate course in obstetrics. Dr. E. LeRoy Wilkins amended the motion to the effect that a copy of the letter be sent to the secretary of the committee on postgraduate medical education. Amendment accepted. Motion seconded and passed unanimously.

Dr. T. M. Dye announced that the Mississippi State Medical Association will meet on May 5, at Greenville, next year, which is one week earlier than usual. Dr. Dye also announced that Dr. Morris Fishbein, editor of the Journal of the American Medical Association, has accepted an invitation to

make the annual oration at the Mississippi State Medical Association meeting next year.

The scientific program being next in order and all scheduled essayists being absent a round-table presentation of interesting cases, and discussions of same was entered in to as follows:

1. Use of the Warwick Ionization Machine in the Treatment of Allergy.—E. LeRoy Wilkins. Discussed by I. W. Barrett, J. L. Levy, T. M. Dye, W. S. Slaughter, D. H. Griffin.
2. Some Interesting and Unusual Eye Cases.—E. LeRoy Wilkins, Discussed by D. H. Griffin, J. L. Levy.
3. Age Incidence of Allergy.—I. W. Barrett. Discussed by E. LeRoy Wilkins, J. L. Levy, D. H. Griffin.

N. C. Knight, Secretary,
Clarksdale.

CLARKE-WAYNE COUNTIES MEDICAL SOCIETY

My attention has just been called to an omission of the entire Clarke-Wayne County Medical Society in the 1935 Transactions. This happened in the printing office and was not caught until too late.

The following are members in good standing of the Clarke-Wayne Society and of the State Association:

W. P. Gray, Waynesboro, President.
B. F. Hand, Waynesboro.
Albert Hand, Shubuta, Secretary.
C. D. Barkley, State Line.
J. A. Smith, Carmichael.

We regret very much that this error occurred, and we are asking you to give this explanation prominence in the New Orleans Medical and Surgical Journal.

T. M. Dye, Secretary.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

A regular monthly meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held at the Elks Club, Vicksburg, Tuesday, September 10. After a supper served at 7 P. M., the meeting was called to order by the President, Dr. F. Michael Smith, with nineteen members and four guests present.

Scientific Program: General Surgery, Dr. W. H. Parsons, Vicksburg, Chairman.

1. Essential Points in Successful Spinal Analgesia.—Dr. George F. Carroll, Biloxi.

Discussed by Drs. A. Street, Vicksburg and W. K. Purks, Vicksburg. Dr. Carroll closed.

2. Thyroidectomy (Illustrated by Lantern Slides and Motion Picture).—Dr. J. A. K. Birchett, Jr., Vicksburg.

Discussed by Drs. W. K. Purks, and W. H. Parsons. Dr. Birchett closed.

3. Surgery in Relation to Pediatrics.—Dr. W. H. Parsons.

Discussed by Dr. G. C. Jarratt, Vicksburg. Dr. Parsons closed the program.

The meeting closed with a brief business session.

Guests present: Drs. George F. Carroll, Biloxi; Dr. Ira Parsons, Biloxi; Dr. Paul Paden, C. C. C. Camps, Vicksburg; Dr. L. Campos del Toro, Lexington.

The next meeting of the society will be held Tuesday, October 8, at the Elks Club, Vicksburg. The subject will be Radiology and the committee in charge consists of Drs. G. M. Street, D. A. Pettit and B. B. Martin, Jr. The program will be as follows:

1. The Physician's Daily Obligation to Educate the Public about Cancer.—Dr. J. A. Beals, Greenville.
2. Improved Methods in Roentgen Therapy of Malignant Disease.—Dr. A. Street, Vicksburg.
3. Radiology in the Diagnosis and Treatment of Fractures.—Drs. S. W. and W. E. Johnston, Vicksburg.

TALLAHATCHIE COUNTY MEDICAL SOCIETY

The Tallahatchie County Medical Society met at the Rotary room in Charleston where, after being served a fish dinner, general discussions were participated in by all present. Malaria was the principal subject. Several doctors related some unusual cases coming under their observation. Those present were Drs. J. D. Biles, Sr., Summer, J. D. Biles, Jr., Parchman, T. E. Clay and J. E. Backstrum, Tutwiler, J. A. Harris, G. D. Hightower, Webb, G. C. Denson, Vance, Henry, Tippo, J. W. Moody, D. G. Bardwell and J. E. Powell, Charleston.

The association of the doctors of any county in a county medical association is worth more than any other one thing to bring the physicians of a county together. I think the physicians of Tallahatchie with a few exceptions are a bunch of the best fellows I ever asociated with. It seems that each physician realizes that each other physician is his friend and all work together like brothers.

J. W. Moody, Charleston.

ADAMS COUNTY

Dr. Homer Whittington has entered general practice in Natchez, and is located at 405 Franklin Street. He is no longer associated with the Natchez Charity Hospital. Dr. George Townsend has replaced him at the above institution.

Mrs. Edwin Benoist, who has recently entered the Natchez Sanatorium, is now convalescing nicely and will soon return home.

The marriage of Dr. Francis Dixon to Miss Virginia Butler of New Orleans will be celebrated in September. Best wishes to the popular couple, from the medical fraternity of Natchez and elsewhere.

Dr. Sessions, with his family, has recently returned from the Crile Clinic in Cleveland, where he went for treatment of his son, Richard. He gave us a very interesting discourse of his visit at the last meeting of the Adams County Medical Society. Our good wishes go to him and family for the continued recuperation of his son.

Dr. Fred Geisenberger soon leaves for Memphis to complete his medical education. On his return he will be associated with the writer, in practice of eye, ear, nose and throat diseases. He will be accompanied by his wife and mother.

Lucien S. Gaudet, County Editor,
Natchez.

ALCORN COUNTY

The Alcorn County doctors are enjoying the post graduate course in obstetrics given by Dr. Lapham, made possible by the Mississippi State Medical Association, Tulane University, and the Commonwealth Fund. We are having good attendance and much interest manifested.

The Alcorn County Medical Society was honored at the last monthly meeting with the presence of Dr. R. B. Watson, malarialogist for TVA, and Dr. E. L. Bishop, director of health and sanitation for Tennessee Valley Projects, also Dr. S. F. Strange, medical officer at Wilson Dam. Dr. Watson gave us a very instructive resume on the "Mosquito as a Malaria Transmitter." Dr. Bishop told us some things about the program promoting health and sanitation in the Valley. We were glad indeed to come in touch with these highly scientific men and were benefited by their talks.

Secretary Dye of the Mississippi State Medical Association notified me some days ago that Dr. Fishbein, editor of the A. M. A. Journal, will be our annual orator at our meeting in Greenville next May. I feel indebted to Dr. Dye for securing this outstanding speaker for us.

J. R. Hill, County Editor,
Corinth.

COAHOMA COUNTY

Miss Louise Frances, superintendent of the Clarksdale Hospital, spent a very enjoyable vacation in Dallas, Texas, and points in Arkansas last month. She reports a delightful trip.

Miss Johnson, of the Clarksdale Hospital, spent her vacation in Knoxville and Chattanooga, Tennessee.

Miss Willis and Miss Palmer, also of the Clarksdale Hospital, report very pleasant vacations during August. The reporter has put forth a concerted effort to find out just where they did spend their vacations but has not been able to find out. I wonder why they won't tell us?

Dr. W. S. Slaughter, Jonestown, had as his guests during the month, his daughter-in-law, Mrs. W. L. Slaughter of Hot Springs, Ark. Dr. Slaughters son, Dr. W. L. Slaughter, is medical director for several C. C. C. camps and his headquarters are at Hot Springs. We hope to be honored with a visit from him soon.

Dr. W. H. Brandon was a business visitor to Memphis several times during the month.

Dr. E. LeRoy Wilkins has installed in his office a Warwick ionization machine for the treatment of allergy. He reports that very beneficial results are obtained from its use.

Dr. T. M. Dye's son, Blanton, and Miss Marguerite Gainey, of Meridian, were married in Meridian on August 25. Dr. T. M. Dye attended the wedding. Mr. and Mrs. Dye will make their home in Clarksdale where Mr. Dye is one of the editors of the Clarksdale Daily News.

Dr. D. H. Raney, of Mattson, has been on the sick list for a week or so but we are glad to report that he is much better and back on the job now.

We are also glad to report that Dr. T. G. Hughes, who was injured in an automobile accident several months ago, is now back in active practice and getting along finely.

Dr. J. A. Slack, Friars Point, attended the Legion Convention in Memphis during the month.

Several of the physicians of Coahoma County are planning to attend the Legion Convention in St. Louis in September.

N. C. Knight, County Editor,
Clarksdale.

COPIAH COUNTY

Dr. C. R. McKee, Hazlehurst, plans a few weeks' vacation to Mexico sometime in the near future.

Dr. J. F. Scorbrough has resumed his practice after an illness of six weeks. The good doctor is looking better each day.

Dr. C. L. Simmons, Hazlehurst, recently visited in the home of his two sons in Greenville. He also attended the monthly staff meeting of the Vicksburg Sanitarium.

Dr. O. G. Eubanks spent several days at Biloxi on an outing. He and several friends report a good catch.

Drs. R. B. Zeller, C. L. Simmons, and J. C. McGuire, Hazlehurst, and F. F. Smith, Crystal Springs, attended the meeting of the Central Medical Society at Jackson.

Dr. J. A. Milne, Jackson, former health officer of Copiah County, was a recent visitor to the local health department.

Dr. A. L. Gray, Brookhaven, director of the Epidemiological Travel Unit of the State Board of Health, has been investigating typhoid carriers in this county.

J. C. McGuire, County Editor,
Hazelhurst.

DESOTO COUNTY

Mrs. D. G. Hughes, nee Ruth Rhodes, and young son of Oxford spent part of the summer at Monteagle, Tenn. Ruth is the daughter of Dr. and Mrs. J. A. Rhodes. Dr. Rhodes when not engaged professionally assists Mrs. Rhodes, who is the genial postmistress at Horn Lake.

Drs. Stuart of Olive Branch and Jernberg of Walls attended the Tri-State Fair in Memphis this week.

The Memphis and Shelby County Medical Society had a most interesting and instructive exhibit at the fair.

This fall weather is delightful and we hope the fall collections will be likewise when bills are presented. The slogan, "See your doctor now," should be emphasized.

Lancelot, Jr., our young son, leaves next week for the University of Virginia to pursue his studies.

In the list of elected legislators, we note the names of the following doctors:

To the Senate:

9th District, Adams County, Dr. James C. Rice, Natchez.

16th District, Noxubee County, Dr. C. R. Bush, Macon.

To the House of Representatives:

Amite County: Dr. W. R. Brumfield, Gloster.

Lawrence County: Dr. J. P. Conn, Monticello.

Marion County: Dr. J. G. Prine, Morgantown.

Neshoba County: Dr. J. S. Hickman, Philadelphia.

Prentiss County: Dr. L. L. McDougal, Booneville.

Walthal County: Dr. L. A. Welch, Tylertown.

Warren County: Dr. J. S. Austin, Oak Ridge.

Yazoo County: Dr. A. B. Kelly, Yazoo City.

The last named is a dentist.

We trust that the incoming governor and legislature will be in harmony and labor for the betterment of the whole state.

Dr. A. H. Little, secretary of the North Mississippi Medical Society, has invited the members of the DeSoto County Medical Society to attend the meeting of that Society at Oxford on October 18, 1935, and likewise has invited the DeSoto members to become a part of the North Mississippi Medical Society.

L. L. Minor, County Editor,
Memphis, Route 4.

HARRISON COUNTY

Drs. Eugene A. Trudeau and Braxton B. O'Mara have announced their association in the practice of medicine and surgery. Their offices are in the Gay Building, Biloxi.

ISSAQUENA COUNTY

Dr. J. B. Benton, Valley Park, broke out of a Vicksburg hospital and came home regardless the first of September. He had been detained there very much against his will for about three months.

He imagined the cotton on his fine plantations cannot attain full growth and productivity without the sunshine and heat of his presence. But he was agreeably surprised to find when he got home that this year's crop, under the direction of his son, J. B. Jr., surpassed anything he himself had ever raised.

Dr. W. H. Scudder, Mayersville, slipped off from Issaquena's sizzing political pot the first of September and took in the Confederate Reunion in Amarillo, in the famous Pan Handle region of Northern Texas. This is a wonderful country. For three hundred miles before reacing Amarillo situated in the heart of the great Llano Estadado of our old geography or our almost forgotten schoolboy days, the train, pulled by clean, oil burning locomotives on a wonderfully smooth track, sped onward and upward. Amarillo, in a perfectly level country, is 3700 feet above sea level, higher than any of the Allegheny Mountains. The coaches are air conditioned. The windows are battened down. No need to raise them. The air is kept cool, sifted and clean with the proper amount of moisture by a refrigerating system in each coach. In winter they are warmed by a similar process. One would not expect such comfort in the broad expanses of the west.

There is not a native tree in sight for hundreds of miles, but only a few shade trees brought in and planted about each village and ranch house. As water is the chief object, each ranch is dotted with wells and windmills to pump the water.

There are almost no cattle left there now. Starved out by three or four years drought, they were either killed or sent away to keep them from dying by starvation. Our own Mississippi Delta country took care of thousands of them. Horses are even scarcer, and the Mexican mustang is extinct.

The chief point of interest at Amarillo is the wonderful Palo Duro Canyon. This stupendous work of nature began as a little gulley a million years ago. The Red River rises in its head, and has cut its way through its entire length of nearly a hundred miles. The canyon is nearly a mile deep, and even wider across. It would take Zane Grey to describe it further.

While his other two conferers were enjoying the pleasures of hospitals and travel Dr. T. W. Huey, Grace, was staying at home by the stuff. However, he reports that he has not been overworked taking his earnings to the bank for deposit.

It will take this reporter three years to clear enough to pay for his trip west. While Dr. Benton has not said it, I am sure it will take him a hundred years to pay his hospital bills.

W. H. Scudder, County Editor,
Mayersville.

LAMAR COUNTY

Leigh L. Polk, retired naval officer (chief pharmacist's mate), died May 15 following surgery of intestines at Good Samaritan Hospital, Los Angeles, Cal. His remains were shipped to Purvis for interment.

His father, Dr. L. L. Polk, Purvis, was stricken soon after his death with lobar pneumonia of the left lung. He is now recovering and able to resume practice.

Mrs. Polk had a severe attack of influenza at the same time. She has also recovered.

The South Mississippi Medical Society meets at Hotel Marion, Columbus, 3 p. m., September 12. We anticipate a good time.

L. L. Polk, County Editor,
Purvis.

LAUDERDALE COUNTY

Dr. and Mrs. Lamar Arrington announce the birth of a daughter on September 12, who has been named Mary Alma. Dr. Arrington is superintendent of the Matty Hersee Hospital, Meridian.

LEFLORE COUNTY

Dr. and Mrs. B. H. Higdon, Sunflower, passed through Greenwood, August 3, on their way home from North Carolina, where they spent two weeks' vacation in the mountains.

Dr. Fred Sandifer, Jr. spent the month of August at his home here, returning to New Orleans, August 31, to resume his service at the Charity Hospital.

Dr. and Mrs. F. P. Ivy and daughter, West Point, were registered at the Hotel Irving, this city, August 5, on a visit to the Delta.

Dr. C. N. Campbell, Sumrall, came back to his old home to vote August 6.

Mrs. Robert McLean, wife of Dr. Robert McLean, Jackson, visited her aunt Mrs. A. N. Burroughs of this city August 7.

Dr. John Gerald Maurice Olmstead, Hartford, Conn., pediatrist, a graduate of McGill University, Montreal, Canada, was married to Miss Helen Pillow of this city August 9. They were married at the home of her parents, Mr. and Mrs. R. L. Pillow, and left immediately for Hartford, Conn.

Dr. S. G. Hounger, house surgeon, Charity Hospital, Vicksburg, was in Greenwood August 13, to see his mother and family before leaving for a South American cruise.

Dr. H. R. Elliott, Courtland, visited Greenwood August 19.

Dr. W. D. Hickerson, Sanatorium, spent the last week of August in Greenwood, at the County Health Unit, conducting a tuberculosis diagnostic clinic, examining 65 patients.

Dr. T. R. Montgomery, Memphis, Tenn., spent the week end of August 27 with his sister, Mrs. I. L. Jones, Greenwood.

Dr. A. L. Gray, assistant epidemiologist of the State Board of Health, visited the County Health Department at this place August 30.

Dr. Eugene M. Murphy, Macon, visited his son, Prof. C. H. Murphy, at Itta Bena, the last few days of August.

W. B. Dickins, County Editor,
Greenwood.

MONROE COUNTY

It is considerably cooler but, with us, the drought holds on. With the exception of a few showers that did not wet the ground we have had no rains since the middle of June. In consequence cotton is cut off by two-thirds and corn is almost a total failure. Only the first planting of corn will make anything and it is very light. No hay at all. Still we do not despair. Perhaps when, if ever, the PWA fund begins to circulate a few jobs (political) may be released. This brings me to mention the announcement, by Dr. Dye, that a contract might be negotiated as soon as Mr. Braun could be persuaded to vamoose. Personally I do not care for any contract except that Uncle Sam should pay standard fees for attention to any and all of his adopted children. No other business is asked to furnish supplies at reduced prices. Why should we be expected to do so? What I want is that employment be furnished for the masses and honest wages paid. Then there will be ample and adequate medical care for everybody and doctors will be paid for services by those whom they serve. I still have faith in the masses but absolutely no faith in those who have control of the economic fabric. They have fraudulently acquired their billions. What care they for the suffering, starving millions. If all ad valorum taxes could be eliminated and a reasonable levy upon every business transaction substituted, our people would become a nation of home-owners and debt-payers. There should be no way to hide wealth from taxation. All interest bearing investments should be compelled to yield taxes. I would

welcome the payment of a reasonable part of every dollar collected for professional service, if real estate and other property for which money had been paid should be exempt. Why penalize a man for putting money into circulation? But when profit on the investment begins to come in, why should he not be forced to divide this profit with his government? This would stop hoarding and open the way for employment for all who want to work. Those who do not want to work should be compelled to do so. There you are—how about it? Let me relate an incident that strengthens my faith in the masses of the common people. Thirteen years ago an employee of the Frisco R. R. lost his job and had to move away from Amory. He left an unpaid doctor's bill, but said that he would pay when and if he ever got able. I let it go at that and forgot the matter. Yesterday I received a request for a statement saying he wanted to pay the bill. During all these years I have not heard of him or his whereabouts. Probably he has secured a PWA job in the state where he now resides.

Monroe County Medical Society met in monthly session last Monday night. We had a good meeting and made arrangements for the coming meeting of the Thirteen Counties Society at Greenwood Springs on Tuesday, the 17th instant. How I wish you could all be with us. John Darrington is to be our honor guest on the program. This is enough to let you know there will be action all along the line. In my next I hope to give a report on the meeting.

I am quite happy to report that all doctors who have been sick are okey or nearly so. No sickness in their families either.

Politics has adjourned, I am happy to say. If I had not said so much already in praise of the integrity of the masses, I should be inclined to say that it looks as if "all men are liars."

I am sure that all professional politicians are liars and the woods have been full of them and the air has been contaminated with their foul breath. God be praised that at least a short respite is in prospect.

Good-bye—good health—good luck, and good collections to and for you all, is my hearty wish for each of you.

G. S. Bryan, County Editor,
Amory.

PONTOTOC COUNTY

Pontotoc County Medical Society met in regular session in Pontotoc, September 3, with twelve members present. We had a very interesting program. Dr. Douglass D. Baugh, Houston Hospital, gave us a very interesting and instructive paper on diseases of the heart. Dr. Robert E. Shands, gave us a very fine paper on burns and how to treat same. Both papers were discussed freely by members of this Society.

Pontotoc County has lost two of her leading physicians within the past two weeks. Both have died from diseases of the heart. Dr. J. W. Gillispie, Sherman, died August 24, interment at Sherman, August 25, which was largely attended by doctors and nurses from Pontotoc, Lee and Union Counties. Dr. E. G. Abernethy, Algoma, passed away at 5:15 yesterday afternoon, interment to be at the Ware Cemetary this afternoon. We extend sympathy to both families.

We welcome Dr. Robert E. Shands into our county. Dr. Shands has recently completed his internship in a Nashville, Tenn. hospital and is now located at Sherman.

R. P. Donaldson, County Editor,
Pontotoc.

PONTOTOC COUNTY

We are about back to normal following the election, though interest was very intent for several weeks. Several of our doctors participated in the campaign, but are now back at work. Fortunately, no injuries other than minor cuts and abrasions (and those were due to car wrecks) were sustained as a result of the excitement attending the primaries.

Our County Medical Unit met in Dr. Donaldson's office August 13 with good attendance. Our essayist failed to appear and the meeting was given over to general discussion. Dr. T. H. Rayburn had on display a jar of 84 large round worms that were taken from a 2½ year old negro child.

We have had several cases of meningitis reported in the county in recent months.

Dr. J. W. Gillespie, Sherman, who has been in bad health for several months, died August 24 and was buried August 25. Dr. Gillispie was one of the county's most esteemed physicians and will be missed very much throughout the entire territory. Many of the doctors of Pontotoc and Lee county attended the funeral.

Except for an epidemic of "summer colds", some of which have been rather severe, there has been no unusual amount of illness in the county in recent weeks.

Cotton is opening rather rapidly in this section now, and gins all over the county have commenced work.

T. H. Rayburn.

TALLAHATCHIE COUNTY

Drs. J. D. Biles, Sr., Sumner, and J. D. Biles, Jr., Parchman, were visitors to the Charleston Hospital Sunday morning. They accompanied Miss Christine Hood, who was operated upon for appendicitis.

Dr. J. E. Powell, Mrs. Powell and son Charles, spent two days in Arkansas motoring to many towns on their trip.

Miss Jewell Fox, R. N., Clarksdale, visited Miss Oletha Clark, R. N., at the hospital today.

Mrs. Routh Callender, Rolling Fork, is the latest addition to the nursing force at the Charleston Hospital.

Miss Campbell, R. N., Memphis, is specialing Mrs. J. P. McCartney at the Charleston Hospital.

Dr. J. A. Harris, Webb, and Dr. Henry, Tippo, were visitors to the hospital a few days ago.

Cotton is moving rapidly. The two gins of Charleston are running day and night. The cotton crop in Tallahatchie County will be from 25 to 40 per cent short.

The corn crop is more than 60 per cent short on account of the dry weather. The doctors are usually the last to know that cotton has been ginned and sold as they have to wait for the top crop which usually fails to mature or the boll weevil gets it.

This county has enjoyed nice showers for the last two days which were greatly needed.

Dr. R. D. Byars, Cascilla, this county, was in town Friday evening.

Dr. J. E. Powell is a great fisherman. He went to the lake the other day and after fishing for sometime he decided to go down (because he could not help himself) and see what was the trouble with the fish. When he came up his glasses were missing. He said the water was fine.

Dr. Lacy Biles, Summer, is on a vacation to New York and other points in the North. He drove through in about 24 hours.

J. W. Moody, County Editor,
Charleston.

WARREN COUNTY

Dr. G. W. Gaines, Tallulah, Louisiana, has again hit the high mark of 100 per cent attendance in the month of August to things medical in Vicksburg, he having attended the staff meeting of each of the private hospitals and the monthly meeting of the I. S. W. Counties Medical Society at which convocation he read a most interesting paper.

The Medical Society of our three counties appreciated the visit and paper read by Dr. Archer of Greenville at our August meeting.

"Politics make strange bedfellows," so we have heard, but the suppressed or impelling force that took Dr. Leon S. Lippincott and Dr. Edley H. Jones to Natchez this month may have been altogether Rotary and "Service above Self," who knows?

It is with a keen sense of appreciation that we are permitted at this early date (August) to review the scientific program already arranged for the annual (December) meeting of the Issaquena-Sharkey-Warren Counties Medical Society. We note three prominent out of state invited guest speakers have already accepted. Our personal interest is further enhanced when we note one of these was a former teacher of ours, and another with the late lamented Dr. Goldberger, gave personal services to us in the investigation and administrative measures in a widespread pellagra incidence some years ago in another state. Many fluent, forceful, versatile, and convincing county editors write of superb, surpassing, and nonpariel attainments and professional virtures of their respective County and District Medical Societies in all of which we glory. However, we recall that Longfellow said: "We judge ourselves by what we feel capable of doing, while others judge us by what we have done." Therefore, we urge you to ask any impartial Mississippi doctor or out of the state doctor who has ever attended any annual meeting of the Issaquena-Sharkey-Warren Counties Medical Society what he thinks of this annual convocation and we feel certain we could accept his judgment without need of protest. Perhaps better still, "Come and see."

Today, August 15, 1935, Will Rogers died. His tragic passing was not anticipated, but came unheralded like some tornado loosed out of the brooding hills. His life was suddenly stilled and as quickly and effectually as the horologist who, with suddenly interjected finger, arrests the beating of the clock. We are not gifted with befitting descriptive words nor do we possess the faculty of adequate expression to pay a worthy tribute to his admirable character, but may we not be permitted to place one flower, the forget-me-not, in the wreath of enduring memory that an appreciative world will place and forever entwine about his inimitable and exemplary life. It may be correctly considered out of keeping with the duties and purposes of a county editor, or of men and things closely and intimately allied or combative to the medical profession's interests. But may we not with sufficient justification claim that Will Rogers belonged to all professions? His stellar performance in the motion picture "Doctor Bull" was a wonderful delineation and presentation of the many occult virtures of the "old time country doctor," but whether as a portrayed actor upon the screen or as a man in his daily walk with man, he was a helper and healer. His wit and wisdom brought new perspectives and exhilirating laughter to multiplied thousands. A troubled groping mind oftentimes found a surcease from worry in his compelling humor and convincing philosophy. It has been said, "They serve God well, who serve his creatures." Surely Will Rogers has heard, "Well done, thy good and faithful servant." Although biographers will respectively call or portray him as cowboy, rancher, showman, preacher, comedian, philoso-

pher, writer, actor, humorist, raido entertainer, motion picture star, aeronautical traveler and adventurer, national embassador of good will, etc., however, many of the medical profession have seen in him a marvelous suggestive therapist, a helper to those who bore the burdens of life with distress, a restorer of mirth and gladness to those who were disconsolate, a dispenser of the "Spice of life," to those who lived in vigor, the joyous, healthy, happy life. Will Rogers is dead. His life to many, many thousands was a joyous benediction, his death a tragic sorrow.

"When the mind is in a state of uncertainty, the smallest impulse directs it to either side."

However, it was not a mental state of indecision, but a fixed and determined desire that possessed Dr. Lawrence J. Clark when he, with the commander-in-chief of his small army, left the "cares that infest the day" and drove away for a few days' vacation on the Florida Coast.

Speaking of vacations, ye editor spent five happy days this month in "some sequestered spot," removed from the duties and responsibilities of his daily life, and he, too, can aver "So vain is the belief that the sequestered path has fewest flowers."

The many friends of Dr. Guy Sanderson regret to learn of his illness, and their best wishes attend him while he takes a needed rest for the restoration of his health.

Dr. H. T. Ims, County Editor,
Vicksburg.

WASHINGTON COUNTY

Dr. and Mrs. J. B. Hirsch, son Joe, and Hugh Allen Alexander, Greenville, enjoyed a trip to Memphis recently.

Mrs. J. B. Franklin and young daughter, Sharon, of Jackson visited her parents Dr. and Mrs. T. B. Lewis, Greenville, during the first week in August.

Miss Ann Beck has returned to her home in Nashville after visiting Dr. and Mrs. Otis Beck, Greenville.

Dr. and Mrs. Virgil Payne and two children, Pine Bluff, Ark., spent a few days with his mother, Mrs. A. G. Payne, Greenville.

Mrs. Lurlyne Birchett, Clarksdale, has been visiting her sister, Mrs. Otis Beck, Greenville. They left recently to visit their mother who lives in Jackson.

Mr. and Mrs. J. B. Franklin, Jackson, motored to Memphis to attend the wedding of his brother, Mr. Octave Franklin, to Miss Louis English. Little Sharon Franklin has been staying with her grandparents, Dr. and Mrs. T. B. Lewis, Greenville, during their absence.

Kenny Witte, son of Dr. and Mrs. K. L. Witte, Leland, has been enjoying a stay in Hot Springs, Ark.

Dr. and Mrs. Paul Gamble and children, Greenville, are enjoying an extensive motor trip, visiting Nashville, Tenn., Boston, Mass., New York and other points of interest in the East.

Dr. and Mrs. L. C. Davis and children, Greenville, have just recently enjoyed a visit with Dr. Davis' father and mother in Meridian.

The many friends of Dr. A. J. Ware, Glen Allen and Greenville, will regret to learn of his serious illness at the King's Daughters' Hospital, Greenville.

The many friends of Dr. R. E. Wilson, Greenville, are delighted to know that his mother, Mrs. W. B. Wilson, Guntown, is rapidly convalescing after an illness in the Kings Daughters' Hospital, Greenville.

Dr. and Mrs. J. C. Pegues and family, Greenville, attended the fair in Memphis recently.

Dr. and Mrs. T. B. Lewis, Greenville, have recently enjoyed a visit with their daughter, Mrs. Rhea Blake, in Bluefield, W. Va.

Dr. D. C. Montgomery and son Cameron, Jr., Greenville, were among those who attended the fair in Memphis.

Dr. J. C. Green, who has recently completed an internship at Cleveland City Hospital, Cleveland, Ohio, is now a member of the Gamble Bros. & Montgomery Clinic, Greenville.

Tom Beals, son of Dr. and Mrs. J. A. Beals, Greenville, is attending the Georgia Military Academy at College Park, Ga., this year.

John G. Archer, County Editor,
Greenville.

WINSTON COUNTY

Dr. W. W. Hickman, formerly of Noxapater, who has been doing a large saw mill practice in South Mississippi, has resigned his place and returned to his farm near Noxapater. The doctor states that the work was exceedingly heavy and that he had to quit on that account.

We congratulate Dr. J. S. Hickman, Philadelphia, on his election to the State Senate in that district. Dr. Hickman was formerly of Noxapater, and was an appreciated collegue in the profession.

Dr. W. A. Young, Boon, has been on a vacation, spending several days in South Mississippi with his father and other relatives.

Dr. T. C. Suttle of Beth Eden locality, and Dr. C. A. Kirk of Fearn Springs locality were on the streets in the city this week.

The doctors are wide awake now looking after collections, as cotton has begun coming in to the market.

M. L. Montgomery, County Editor,
Louisville.

DR. JULIUS CRISLER

Dr. Julius Crisler, Jackson, died at Jackson, September 13, of intestinal hemorrhages with heart and lung complications. He had been failing in health for several years. Dr. Crisler was born in 1876, was a graduate of Jefferson Medical College of Philadelphia in 1898, and had devoted his time to surgery. He was a fellow of the American College of Surgeons.

Dr. Crisler is survived by two brothers, Dr. J. A. Crisler of Memphis and Dr. Benjamin Crisler of Itta Bnea, and a number of nephews and nieces, the family connections being widespread.

Funeral services were held from St. Andrews' Episcopal Church, Jackson, and interment was in the Crisler family cemetery at Flora.

Dr. Crisler was highly regarded because of his unselfish service and will be greatly missed.

Geo. E. Adkins.

DEATHS OF MISSISSIPPI PHYSICIANS

Dr. J. P. Sherrod, Port Gibson, August.
Dr. J. W. Gillespie, Sherman, August.
Dr. E. G. Abernethy, Algoma, September.
Dr. Julius Crisler, Jackson, September.

TUBERCULOSIS ABSTRACTS

Tuberculin test surveys of school children conducted in numerous communities have directed attention to the problem of discovering tuberculosis among teachers who may be spreading infection to the children. An increasing number of school boards are demanding proof from the teacher that she is tuberculosis free. Since this practice promises to become more widespread the physician should know about the procedures that are being tried and be prepared to participate with the school boards in formulating the best plan. The method employed in Minneapolis is described in a recent article by Harrington, Myers and Levine in the Journal of the American Medical Association, brief abstracts of which are here submitted.

TUBERCULOSIS AMONG SCHOOL EMPLOYEES

Some states have laws providing for the physical examination of teachers and the exclusion of those applicants who have tuberculosis. The Attorney General of Minnesota has ruled that "the skin test for teachers is reasonable exercise of the police powers of the school boards if required for the purpose of safeguarding the pupils of public schools."

Previously the author demonstrated that children taught by teachers with open tuberculosis showed a much higher incidence of positive tuberculin reactions than those taught by other teachers. Ickert found that 93.5 per cent of the children taught by tuberculous teachers reacted to tuberculin as compared with about 25 per cent reactors in a control group. Frost reported 71 per cent reactions among pupils of a tuberculous teacher whereas only 11.4 per cent of children in adjacent districts taught by non-tuberculous teachers were positive to the test.

Preparing the way—The first step taken in Minneapolis to bring about a survey of school teachers and employees was to arouse the school board to the need of requiring a health certificate of all teachers. At that time, October, 1921, the value of the tuberculin test and the X-ray was not thoroughly appreciated and therefore certificates in some instances seemed almost worthless. More publicity and education was patiently carried on to prevail upon the board to demand from the teacher more specific evidence of freedom from tuberculosis.

The problem was discussed with the medical society which after careful deliberation, supported the Director of Hygiene of the Minneapolis School Board in his recommendation to the board that all teachers and employees who came in contact with school children submit to a Mantoux skin test, the expense of the test to be borne by the board.

Since there was some objection to the tuberculin test based on misunderstanding, the order adopted by the board was modified a few months later to permit the teacher to submit an X-ray film of the chest in lieu of the skin test. Protests of obstructionists continues and therefore it was considered wise to postpone the execution of the order to December 31, 1933. New objections arose but the authorities proceeded with the administration of tuberculin tests and the preparation of X-ray films of the positive reactors. False and absurd rumors which tended to disparage the procedure circulated freely, but tactful execution of the procedure overcame most of the objection and in a short time a high percentage of teachers submitted to the test.

Procedure—A physician and a nurse visited each school building and applied the test to all employees who wished it. Arrangements had been made with the local radiologic society for the taking of X-ray films of the chests of all teachers and others concerned who were authorized by the school board to have such films made. Teachers who declined the skin test, as well as those whose tuberculin tests proved positive, were issued authorization slips for the making of the X-ray films. The films when made were forwarded to the hygiene department of corroboration.

An option on this procedure was offered, permitting teachers to have the tuberculin test applied by their private physicians, a report of the results, certified over the physician's signature, to be sent to the director of hygiene. Further, the school personnel was permitted to submit X-ray

films of the chest taken by physicians of their own choice. These options were exercised at the expense of the teacher. All other costs were borne by the school board.

Results—Altogether 2,190 persons were tested with tuberculin and 1,384 elected an option. A single dose of 0.1 mg. of tuberculin was used. Retesting of negative reactors could not be done because it was necessary to simplify the procedure.

Of those tested 49 per cent reacted. The incidence of reactors varied curiously in different schools. In two schools in which there were less than five teachers, all were negative. The lowest number of reactors in the large schools was 10 per cent and the highest was 82 per cent. As a group, school nurses showed the highest incidence, 91 per cent. Of the 2,466 who were X-rayed 59 per cent showed no evidence of disease.

All films were interpreted by one of the authors who classified them as follows:

No evidence of disease	1,453
Scoliosis	2
Possible substernal thyroid	2
Change in cardiac outline	44
Evidence of increased bronchovascular markings	175
Evidence of fibrinous pleurisy	66
Evidence of first infection type and pleurisy	29
Questionable evidence of first infection types of tuberculosis	85
Evidence of first infection type of tuberculosis	532
Evidence of parenchymal lesions	78

The method employed is regarded by the authors merely as a means of screening out cases who should have a thorough examination for tuberculosis. The 78 persons with parenchymal lesions as well as those with changes in cardiac outline or other significant findings were all advised to consult the physician for further examination and final diagnosis. To keep a check on those with parenchymal lesions periodic roentgenographic examinations were requested at stated intervals, the films to be submitted to the Director of Hygiene of the school board. There was no interference with practitioners of medicine. The school board should not treat disease but is definitely obligated to make sure that their employees do not disseminate tubercule bacilli in line of duty. Great care must be exercised by the board not to be too drastic in dealing with those who have parenchymal shadows. Every finding should be kept strictly confidential; even the tuberculin test should be applied on a part of the body where it is not visible to other teachers or pupils and the report on the test should be made only to the individual tested.

The costs of the survey are important to consider. All but 102 of the tuberculin tests were paid for by the school board. Of the 2,746 X-ray films 238 were not paid for by the school board. The total expense to the school board was $5,525.50.

Advantages of survey—In the summary of the article the chief advantages of the survey are stated as follows:

"First, disease may be detected before it has produced significant symptoms and when it can be treated successfully in a short time, thus saving the teacher a long period of inactivity from work. Such cases, by adequate treatment, may be prevented from breaking down so as to be a menace to the children and other teachers. Thus, the environment so far as tuberculosis is concerned becomes much safer from the standpoint both of the teacher and the child. Second, compulsory examination often lead to investigation on the part of the teacher so that she becomes informed concerning the contagious nature of tuberculosis. Many such teachers become enthusiastic workers in the tuberculosis control program. This should lead ultimately to the enlistment and the support of great education associations, which will be a valuable acquisition to the forces against tuberculosis.

THE WOMAN'S AUXILIARY TO THE MISSISSIPPI STATE MEDICAL ASSOCIATION

President—Mrs. Leon S. Lippincott, Vicksburg.
President-Elect—Mrs. Adna G. Wilde, Jackson.
Secretary—Mrs. H. C. Ricks, Jackson.
Treasurer—Mrs. J. W. D. Dicks, Natchez.
Press and Publicity Chairman—Mrs. Hough H. Johnston, Vicksburg.

Mrs. Leon S. Lippincott
Vicksburg, Mississippi
President of Woman's Auxiliary to the Mississippi State Medical Association, 1935-1936.

Grace Emma Holcomb was born at Streator, Illinois, the daughter of James W. and Frances Hughes Holcomb, and lived there and later in Branson, Michigan, until coming to Vicksburg in

1918. She was married to Dr. Leon S. Lippincott of Vicksburg in 1923 and they have one son, Leon Stanley, Jr., born in 1929.

Mrs. Lippincott was a charter member of the Woman's Auxiliary to the Mississippi State Medical Association and has been a member of the Woman's Auxiliary to the Issaquena-Sharkey-Warren Counties Medical Association since its organization.

FROM OUR PRESIDENT

Greetings to the members of the Women's Auxiliary to the Mississippi State Medical Association. It is my sincere wish that each and every one of you may fulfill your highest ambitions in auxiliary work this year.

We have certain state-wide objectives in which we should all cooperate as a unit and there is also a choice of objectives to meet the requirements and wishes of local auxiliaries.

Our first thought turns to the expressed wish of the president of the Mississippi State Medical Association and a member of our Advisory Council, Dr. J. R. Hill. "It is my wish that the Auxiliary increase its membership and organize auxiliaries in districts and counties where there are none."

Dr. Harvey F. Garrison, president-elect of the State Medical Association and another member of the Advisory Council, has written a very complimentary letter in regard to our objectives and also has assured us of his cooperation.

Dr. T. M. Dye offers his approval and hearty assistance which he has already proven by his generosity in publishing our Transactions with the Transactions of the State Medical Association. We are most appreciative, Dr. Dye.

Our very worthy councilor, Dr. F. M. Acree, has expressed a desire which we should make every effort to carry out. "I should like to see the magazine Hygeia in the library of every high school and college in the state." Also, "The Preventorium Day" in the public schools of the state would bring before the public through the school children the work of this institution, which I should think would be a most worthy activity. Dr. Acree's comments on these auxiliary objectives are most encouraging.

Since mention is made of the above four members of the Advisory Council, it would not be kind perhaps to leave out the fifth member, even though he happens to be "in the family." Dr. Lippincott's advice, aid and encouragement has been and will continue to be valuable to the Auxiliary.

With such approval and encouragement of the Advisory Council behind our program, we should have the ambition and desire to make a step forward in a big way this year.

In regard to membership, there is an opportunity, surely, to increase it. We have only such a very small percentage of members from those who are eligible. The membership of the Mississippi State Medical Association at the time of the Biloxi meeting was 904. The membership of the Woman's Auxiliary was 187. Please give some serious thought to the following figures:

District, Councilor	Auxiliary Members	Medical Assn. Members
First, Mrs. J. A. Beals	31	158
Second, ————	0	74
Third, Mrs. W. H. Anderson	5	148
Fourth, ————	7	45
Fifth, Mrs. John Howell	77	164
Sixth, Mrs. Lowry Rush	1	74
Seventh, Mrs. L. L. Polk	16	86
Eighth, Mrs. H. R. Fairfax	25	92
Ninth, ————	25	63
Totals	187	904

Allowing for the fact that some of our doctors have not seen fit to take unto themselves wives or have been unable to find women who saw fit to become wives, our Auxiliary membership in Mississippi should be at least 500.

Let's make it 500 before next May.

Mrs. Leon S. Lippincott, President.

WOMAN'S AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION

The Woman's Auxiliary to the Southern Medical Association will meet in St. Louis, Missouri, November 20 and 21. All women attending the Southern Medical Association meeting are invited to the Auxiliary meetings.

Each State Auxiliary is entitled to send its president, two delegates, and two alternates to form, with the Executive Board, the voting body.

Members and eligible members of County Auxiliaries in these states, are very cordially invited to attend the luncheon meeting Wednesday, November 20 at 12:30 P. M., and the annual meeting, November 21 at 9:30 A. M. The business sessions are to be conducted on a schedule, allowing time for social arrangements. For the development of the Auxiliary, it is important for members and eligible women to be present, because the foundation of an organization rests on its membership and future leadership comes from it.

So make your plans now to go to this convention.

Mrs. Lee W. Roe,
Chairman Press and Publicity,
Southern Medical Auxiliary.

VICKSBURG NOTES

Dr. and Mrs. George Street have returned from a vacation on the Gulf Coast.

Dr. and Mrs. Laurance Clark have returned from a vacation spent in Mobile and Pensacola.

Miss Sydney Johnston, daughter of Dr. and Mrs. S. W. Johnston, has gone to college at Brenau.

Mrs. R. A. Street is visiting her family in Fayette.

Members of the Auxiliary are anticipating with pleasure the first meeting since a three months summer recess.

Mrs. Benson Martin, Jr. has gone to New Orleans for a visit.

Mrs. Preston Herring entertained her Tuesday Night Bridge Club.

Mrs. F. M. Smith has returned from a pleasant vacation.

Mrs. John Birchett motored to Jackson for the day.

HONOR ROLL

The following have contributed to the Mississippi Section of the Journal this month:

County Editors: Lucien S. Gaudet, J. R. Hill, N. C. Knight, J. C. McGuire, L. L. Minor, Eugene A. Trudeau, W. H. Scudder, L. L. Polk, W. B. Dickins, G. S. Bryan, R. P. Donaldson, J. W. Moody, H. T. Ims, John G. Archer, M. L. Montgomery.—15.

Societies: Adams County, W. K. Stowers; Amite County, D. H. Thornhill; Central, L. W. Long; Coahoma County, N. C. Knight; Clarke-Wayne Counties, T. M. Dye; Issaquena-Sharkey-Warren Counties; Talahatchie County.—7.

Woman's Auxiliary: Mrs. Hugh H. Johnston; Mrs. Leon S. Lippincott; Mrs. Lee W. Roe.—3.

Others: T. M. Dye; Felix J. Underwood; G. Lamar Arrington; T. H. Rayborn; R. A. Street, Jr., George E. Adkins.—6.

Grand Total.—31.

BOOK REVIEWS

New and Nonofficial Remedies, 1935. Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1935. Cloth. Price, $1.50. pp. 510.

Chicago: American Medical Association, 1935.

In this book the Council on Pharmacy and Chemistry lists and describes the medicinal preparations that it has found acceptable for general use by the medical profession. A glance at the list of the Council members and the long list of consultants appearing in the first part of the book gives ample warrant for the authority of the Council's selections.

Not only does the Council "accept" new preparations but from time to time it omits those which have been accepted but which have not with the lapse of time upheld their original promise of therapeutic merit. The list of omissions for 1934 shows that the Council has been mainly concerned in this respect with B. acidophilus preparations and with antiseptics. Several preparations of each class have been omitted. The list of admissions does not reveal the presence of any preparation that promises to be epoch making in the sense that insulin was, for instance. However, the following newly accepted preparations are noteworthy; Carbarsone, an arsenical used chiefly in the treatment of amebiasis (the Council published a special report on this drug, supplementing the preliminary report of 1932); Hippuran and Diodrast, two different types of urographic contrast mediums: Carotene, the precursor of vitamin A; Dilaudid, a substitute for morphine; Neo-Synephrin Hydrochloride, which has a number of advantages as a vaso-constrictor over synephrin tartrate; and Diothane, which represents a type of local anesthetic entirely different chemically from any heretofore accepted for N. N. R.

The description of products containing vitamins A and/or D have been revised to give the potencies in terms of the recently adopted pharmacopeial units, thus bringing some measure of uniformity into this heretofore chaotic field. No doubt the book will be revised next year to conform with the new Pharmacopeia in its entirety.

A valuable feature of the book is the grouping of preparations in classes. Each of these is introduced by a general discussion of the group. Thus the silver preparations, the iodine preparations, the arsenic preparations, the animal organ preparations and the biologic products are each preceded by a general discussion of the particular group. These general articles compare the value of the products included in the group with similar pharmacopeial and other established drugs which it is proposed that these proprietary preparations shall supplement or supplant.

Physicians who wish to know why a given proprietary is not described in New and Nonofficial Remedies will find the "Bibliographical Index to Proprietary and Unofficial Articles not Included in N. N. R." of much value. In this section (in the back of the book) are given references to pub-

lished articles dealing with preparations that have not been accepted. These include references to the Reports of the Council, to Reports of the A. M. A. Chemical Laboratory and to articles that have appeared in THE JOURNAL.

Annual Reprints of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1934, *with the Comments That Have Appeared in The Journal.* Cloth. Price, $1. pp. 135. Chicago: American Medical Association, 1934.

Each succeeding volume of reports of the Council reveals more of the long and successful fight in the interest of rational therapeutics. The Council is no longer chiefly concerned with noisome proprietaries and yet this latest volume contains reports on such articles as "Vita-Cell," a secret preparation marketed with exaggerated claims, and "Raylos," a shotgun preparation marketed in a way to promote its ill advised use by the public. Most of the "unacceptable" reports in this volume are concerned with products that may have some merit but are not offered to the public in a way which experience has taught the Council is necessary before a therapeutic agent is acceptable. Such products as Iodine Dusting Powder (Sulzberger), rejected for lack of clinical evidence of its advantage over one of its constituents; Pernoston, rejected because of lack of clinical evidence to justify routine intravenous injection of barbital compounds; Di-Hydranol, a claimed bactericidal agent proposed for use as an "intestinal antiseptic," a claim not supported by sufficient clinical evidence; and Squibb Adex Tablets, a product containing a concentrate of vitamins A and D, for which the firm could not agree to adopt a more informative name.

To those who have followed the Council's investigation of B. acidophilus therapy, the report "Acidophilus Bacillus Liquid-Mulford and Mulford Acidophilus Bacillus Block Omitted from N. N. R." will be of interest. The Council has apparently not yet reached an ultimate conclusion concerning acidophilus therapy, but it has for years held that no product could be expected to be of value unless it could show at least one hundred million viable B. acidophilus organisms at the "date of expiration." Competent bacteriologic examination showed that the two preparations here reported were inferior to this standard. Further grounds for omission were the failure of the manufacturer to comply with certain stipulations in regard to labels and advertising. Another noteworthy omission is that of Alpha-Naphco and its dosage forms, omitted because the Council on reconsideration found that it is a weak antiseptic.

The Council also issues preliminary reports, which define the status of new preparations for which the evidence is not yet sufficient to justify their presentation to the medical profession generally. Preliminary reports do not imply rejection but rather postponement of consideration until more evidence is reported by competent investigators. These reports are the outposts of therapeutic progress and as such are valuable sources of information to physicians. In this volume there are preliminary reports on Adrenal Cortex Extract, concerned mostly with scientific terminology, Cysteine Hydrochloride, Dihydroxy-Anthranol (Anthralin), Gastric Mucin, Hemoprotein (Brooks), Phenylmercuric Nitrate and Phenylmercuric Chloride.

Illustrative of the Council's efforts to keep those concerned informed of the basis for its actions are the "Recent Revisions or Elaborations of the Council's Rules of Interest to Manufacturers and the Medical Profession," which have appeared in the last two volumes. These inform the profession of the various problems which arise and the care given to their consideration. To be commended also is the "Report on Sterility of Ampule Preparations."

American Illustrated Medical Dictionary: 17th edition, revised and enlarged. Philadelphia, W. B. Saunders Co. 1935. pp. 1573. Price $7.50.

The seventeenth edition of this practical and most usable dictionary contains several thousand of the newest medical terms. It is interesting to note that the first edition of this standard work (1900) was composed of 770 pages, as compared with the 1573 pages of the present volume. The contents have been carefully edited by the Staff of the American Medical Association under the direction of Dr. Morris Fishbein.

This volume is the reviewer's first choice as a usable and dependable medical dictionary for office use.

MARY LOUISE MARSHALL

A Synopsis of Regional Anatomy: By T. B. Johnston, M. B., Ch. B. Third edition. Philadelphia, Lea & Febiger. 1935. pp. xxiii + 460, no figs.

The design of this volume is amply indicated in its title. It makes no pretension to being more than a synopsis, prepared "to assist the average student in his work of revision only"; in other words, it aims to aid in review by the student who has already gained detailed information from the cadaver and standard text book. The arrangement, again as indicated in the title, is by regions, excepting that osteology is treated in a separate section: arm; leg; thorax; abdomen; head and neck; central nervous system and organs of special sense. Subdivision under each section is likewise regional, as exemplified by the following subheadings under the upper limb: pectoral region and axilla; scapular region; upper arm; front of forearm; palmar aspect of wrist and hand;

back of forearm and hand; joints. The text matter is succinct. A glossary is provided, listing the original B. N. A. terms and their equivalents in the British revision, the latter being given precedence in the text though with the original terms accompanying, in brackets.

HAROLD CUMMINS, Ph. D.

Diseases of the Thyroid Gland: By Arthur E. Hertzler. 3rd edition. St. Louis. C. V. Mosby Co., 1935. pp. 348. Price $7.50.

The third edition of a monograph by Dr. Hertzler on the thyroid gland, like the two preceding editions, deserves the attention of surgeons and internists interested in this phase of their art. The commanding characteristic of Dr. Hertzler's writings is rugged individualism of thought and expression not commonly found in medical literature. Far from being a medical "pulp" writer, his words and sentences clothe observations and record experiences that have already made him one of the master surgeons of America. This volumn is particularly interesting in that the author gives his views and expresses his opinion about some points constantly under discussion by eminent goiter surgeons; e.g., the amount of gland to remove, the relationship of different types of goiter one to another, and the part various possible factors play in the etiology of goiter, as well as observations of his own on phases not so commonly discussed. Years of observation of patients from childhood to well advanced maturity, from the stages of incipient goiter to the bosselated and then the toxic gland, formulate Hertzler's conclusion that goiter is one continuous disease process. He has never seen a case in which a sudden nervous shock could be accepted as the etiologic factor. He prefers to be radical in his attack on a goiter, does not fear myxedema, and states one of his wisest friends says he does not know myxedema when he sees it. He contends that Rocher's article on cachexia strumipriva has been a deterrent to surgeons doing the radical extirpation he considers necessary for the cure of goiter.

Activity of interstitial cells, according to him, produces a toxicity of a definite clinical type. The degree of firmness and the degree of fixation of a gland are indications of toxicity and the latter in addition is an aid helpful in determining the optimum time for operation. The responsible factor in goiter is intrinsic, not extrinsic.

Irrespective of whether one listens with credulity, these and other observations or dissenting opinions make the book fascinating, instructive, interesting.

HOWARD R. MAHORNER, M. D.

Martini's Principles and Practice of Physical Diagnosis: Edited by Robert F. Loeb, M. D., Associate Professor of Medicine, College of Physicians and Surgeons, Columbia University, and Presbyterian Hospital, New York City. Philadelphia. J. B. Lippincott Company. pp. 213. Price $2.00.

This is a splendid book on the Principles and Practice of Physical Diagnosis, and is especially to be recommended to the medical student or the practitioner, as the necessary knowledge is condensed into a small volume, well indexed and distinctly readable. Of particular value are the synopses of the diseases of the respiratory tract and of the cardio-vascular system, especially so because of the inclusion, with the physical signs of each disease, of the x-ray and fluoroscopic findings as well. Dr. Loeb is to be congratulated on the editing of the translation, and, of course, no comment is necesary on the original work. The publishing is up to the usual high standing set by J. B. Lippincott.

CHAILLE JAMISON, M. D.

PUBLICATIONS RECEIVED

Paul B. Hoeber, Inc., New York: Disease of the Liver, by Samuel Weiss, M. D., F. A. C. P.

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